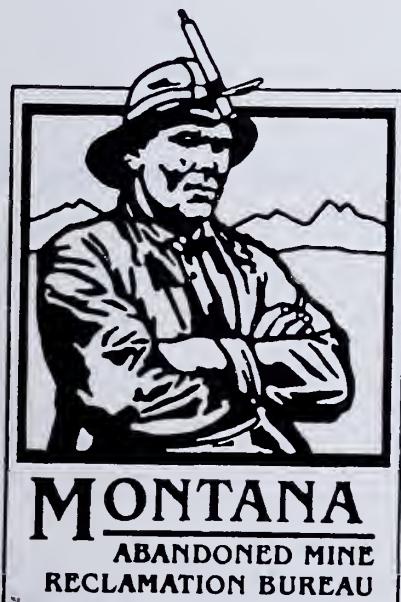


LEHIGH PROJECT

DEQ - AMRB No. 94-002

FINAL REPORT

Judith Basin County in Central, Montana



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LEHIGH PROJECT FINAL REPORT

1. INTRODUCTION

1.1 Project Description

The Lehigh Project was designed to permanently neutralize the acid generating potential of 91,000 cubic-yards of coal waste which had been placed in several areas near Lehigh during a previous AMRB project. Two satellite contracts proceeded the Lehigh Project. The Kiln Dust Lime Supply Project, MT DSL-AMRB No. 94-M02, was used to purchase a supply of lime kiln dust from Continental Lime. The Hughes F Maintenance Project was implemented to haul 16,970 tons of lime kiln dust from Continental Lime's plant near Townsend and to place this material in storage pits located near Lehigh.

1.1.1 Location and Access

The Lehigh Project is located 3½ miles southwest of Windham in the SE¼ of Section 16, NE¼ of Section 21, N½ of Section 22, NE¼NW¼ & NW¼NE¼ of Section 32, and SE¼ of Section 29, T15N, R12E in Judith Basin County. General access is by proceeding 67 miles east from Great Falls on Highway 87 to its junction with Secondary 541 near Windham. Then proceed southwest on 541 approximately one mile to an improved gravel road which branches off the right side of the highway and continues to the southwest as the highway turns toward the south. The abandoned town of Lehigh is located approximately 2.8 miles up this gravel road. A large concrete loadout structure marks the location of the mine at Lehigh. The Lehigh site is situated on the ridge about ½-mile to the north. The Hughes F Site 1, Hughes F Site 2, and the Stockwater Dam Site are in close proximity to the main Lehigh Site. The Lehigh Project area is found on the 7½ minute USGS quadrangle named Windham, Mont. at latitude 47°03'05" and longitude 110°12'18".

1.1.2 Land Ownership

The site is owned by the following landowner:

Gayle Evans
P.O. Box 3156
Stanford, MT 59479
(406) 566-2509

1.1.3 History

A history of mine development in the area surrounding this site can be found in the *Historical and Cultural Survey of Selected Abandoned Mine Sites in the State of Montana* by Historical Research Associates, Missoula, Montana, dated March 19, 1982. The section on the Hughes Complex - Mine F refers to this site. The Seaman Mine was the first mine of note in this area.

Previous reclamation work on this site occurred during the Lehigh Abandoned Mine Reclamation Project which was bid on October 31, 1989. This contract was awarded to

Montgomery Construction of Hilger, Montana. The main objective of this project was to remediate impacts associated with a large coal slack pile located in a coulee near Lehigh. This pile was the main coal waste disposal area for the Cottonwood Coal Company's underground mine at Lehigh. The Lehigh mine accessed the coal seam from a 208 foot deep shaft and began production in 1914. The Cottonwood Coal Company was a subsidiary of the Great Northern Railroad. The mine was developed to supply coal to the railroad after production out of their mines in Sand Coulee and Stockett proved inadequate. The peak production years were from 1918-1919. The mine at Lehigh was closed in 1921 after a labor dispute. The mine closure led to the abandonment of the town which had a population of 5000 people by then.

The mine and wash plant at Lehigh were capable of producing over 2500 tons/day. A conveyor was originally used to carry waste products from the facilities to the disposal area. In 1917, an aerial tramway was constructed. It is estimated that the disposal area eventually received as much as 225,000 cubic yards of wash plant and mine wastes. The pile bridged a coulee in the North Fork Sage Creek drainage creating an impoundment. Water seeping through the pile eventually created an acid mine drainage problem which effected 10-15 acres of range land. In 1983, the AMRB attempted to reduce the acidic seepage by placing a heavy clay liner on the upstream face of the pile; however, this liner was ineffective. The Lehigh Abandoned Mine Reclamation Project in 1989-1990, moved a reported 200,400 cubic-yards of this waste pile to a 10 acre disposal area located on the slopes of the coulee adjacent to the waste pile. This material was compacted in lifts, graded, limed at the rate of 20 tons/acre, covered with an 8-inch layer of salvaged soil, and revegetated.

Potential problems resulting from the reclamation of the Lehigh coal waste pile were first observed by AMRB staff during the summer of 1991. At that time, vegetation was in moderate to good condition on the majority of the reclaimed site: but, several areas were either unvegetated or exhibited poor growth. In addition, much of the reclaimed coulee bottom was unvegetated and salt efflorescence were observed along the banks of the coulee.

In 1991 and 1992, Chen-Northern, Inc. was assigned several tasks designed to evaluate acidic seeps and the potential for soil acidification in the area where the 1989-1990 project had deposited the Lehigh coal wastes. The Chen-Northern studies concluded that additional monitoring and study would be required to select the most suitable remediation alternative. However, their February 1992 report states; "that acidification of the coversoil will eventually occur. This process will probably occur over an extended period of time and the resulting effects on the vegetative cover may not be realized for many years." Their preliminary recommendation was to move the coal waste to a more suitable location and to encapsulate the coal waste in a constructed disposal site which would be excavated and could provide 4-feet of capping material.

In May 1994, Dr. Doug Dollhopf, et al from the Reclamation Research Unit at Montana State University was contracted to determine the total lime requirement to permanently neutralize the entire coal waste mass. It was recommended that 307 tons of CaCO_3 or lime kiln dust / 1000 tons of coal waste be applied. The study estimated that 205,550 cubic yards of coal waste would be neutralized if the entire mass was treated.

1.2 Project Objectives

The project objective was to permanently neutralize the acid generating potential of coal waste associated with a large abandoned coal mine at Lehigh. This project was designed to address approximately one-half of the affected area.

2. RESPONSIBLE PARTIES

2.1 Contractor

The successful bidder was M.K. Weeden Construction Inc.. Their address is shown below:

M.K. Weeden Construction Inc.
941 W. Erie
Lewistown, MT 59457
Phone: 406/538-3726

M.K. Weeden sub-contracted the neutralization portion of the work to:

Prince, Inc.
P.O. Box 440
Forsyth, MT 59327
Phone: 406/356-2137

2.2 Reclamation and Engineering Plan

Spectrum Engineering was assigned the responsibility of preparing engineering plans and specifications for this project. Dr. Doug Dollhopf, et al from the Reclamation Research Unit at Montana State University provided those specifications concerning coal waste neutralization.

Spectrum's address is shown below:

Spectrum Engineering
1413 4th Avenue North
Billings, Montana 59101
Phone: 406/259-2412

2.3 Quality Control Inspection

Spectrum Engineering performed the quality control inspection. Vern Heisler and Bill Maehl performed project engineering functions. Hank Lowe, Arnie Knight, and Dave Murja served as construction inspectors.

2.4 AMRB Coordination

The AMRB Project Manager was Joel Chavez, Montana Department of State Lands, Abandoned Mine Reclamation Bureau.

3. CHRONOLOGICAL LISTING OF EVENTS

3.1 Pre-Bid Conference

A pre-bid conference was held at the site near Lehigh on April 19th, 1995. Joel Chavez represented the AMRB and Bill Maehl and Hank Lowe represented Spectrum Engineering. The meeting was attended by a large number of prospective bidders. All of the contractors who submitted bids were in attendance. One addendum to the solicitation was issued subsequent to the conference.

3.2 Bid Date

The bid opening date was April 27th, 1995 at 2:00 p.m. at the Montana Department of Environmental Quality, Abandoned Mine Reclamation Bureau's office, 1625 Eleventh Avenue, Helena, Montana.

3.3 Lowest Bids

Seven (7) qualified bidders responded to the solicitation. Bidders included: Shumaker Trucking and Excavating, M.K. Weeden, Donnes Construction, Sletten Construction, Hydrometrics, Inc., Montgomery Construction, and D.H. Blattner & Sons. The low bid of \$526,968.60 was submitted by M.K. Weeden Construction Inc.. The remainder of the bids ranged from \$645,000 to \$1,323,933. The Engineer's estimate was \$629,570.00. The bid tabulation is presented in ATTACHMENT 1.

3.4 Pre-Award Conference and Contract Award

M.K. Weeden Construction Inc. of Lewistown who was the apparent low bidder. However, because the bid was significantly lower than the next lowest bid and about one-half of the average bid, a Pre-Award Conference was held at the AMRB's office in Helena on May 1st, 1995. The purpose of this conference was to gain assurance that M.K. Weeden understood the requirements of the specified work. Cassandra Noble, Joel Chavez, and John Koerth from the Dept. of Environmental Quality, Hank Lowe and Bill Maehl from Spectrum Engineering and Monte Weeden from M.K. Weeden were in attendance. Following the conference, M.K. Weeden was awarded the contract.

3.5 Contract Agreement

The Contract Agreement was signed May 18th, 1995. The Notice to Proceed was issued for a starting date of June 12th, 1995. The term of the contract was to be one-hundred and five (105) consecutive calendar days. September 25th, 1995, was the scheduled completion date for work under the Contract. The project lost 10 weather days and had a shut-down to wait for Fall planting.

3.6 Construction Start-up

A Pre-Construction Conference was held at the site on May 31st, 1995. M.K. Weeden Construction started work on June 12th, 1995.

3.7 Change Orders

Four Change Orders were written for this project. Copies of the Change Orders are included in ATTACHMENT 2 of this report. Change Order No. 1 was issued to adjust estimated quantities to measured quantities for payment, to delete the coversoil payment item from the Hughes F Site, and to excavate an extra pit to accommodate kiln dust with a different purity being hauled directly from the silos. These changes increased the contract amount by \$5,777.37.

Change Order No. 2 was issued to pay the Contractor \$79,742.25 for the following changed conditions:

- (1) Screen lime kiln dust at Continental Lime's storage pit prior to shipment;
- (2) Reduced the area of coal slack to be neutralized and requirement to dry coal waste before processing;
- (3) Increased the liming rate from 300 tons of lime kiln dust per 1000 tons of coal waste to a rate varying between 320 to 340 tons of lime kiln dust resulting in a \$0.122/CY adjustment; and,
- (4) Added backfilling and revegetation of storage pits to the work requirements.

Change Order No. 3 was used to reduce the Contractor's payment for screening lime kiln dust at Continental Lime's storage pit prior to shipment because this operation was terminated early due to a lack of lime hauling trucks. The change order also increased the unit rate for liming cover as compensation for an increase in the liming rate from 20 tons/acre to 60 tons/acre. The \$0.122/CY adjustment for increasing the liming rate for coal waste was applied to the quantity of coal waste to date. These changes increased the contract amount by \$21,342.03.

Adjustments to correct the estimated quantities to actual measured quantities for completed bid items were included in Change Order No. 3. Bid unit prices were used for the adjustment of bid and actual quantities which amounted to a net decrease of \$161,832.93. The major change was a reduction of 36,683 CY in the quantity of coal waste that was processed. The quantity was reduced because lime haulers were not available to supply additional lime for processing.

Changes over the entire project reduced the contract price from \$526,968.60 to \$471,997.32. This was a reduction of \$54,971.28 in the price. Conversely, approximately 60-percent of the planned quantity of coal waste neutralization was accomplished.

3.8 Work Stoppages

M.K. Weeden Construction Inc. started work on June 12th, 1995 and worked through September 30th, 1995 when the project was shut-down to wait for the Fall planting period. The Contractor had been allowed 12 weather days during this period; so, 99 days had transpired on the contract time before the shut-down. On November 9th, 1995, Weeden Construction returned to the site for Fall planting. Fall planting and erosion control mat installation was completed on November 15th, 1995, with 1 day lost due to weather. The

contractor had personnel and equipment operating on 74 days during the project.

3.9 Requests for Payment

Four payment requests were made during this project. A copy of each Pay Request is included in ATTACHMENT 3. A 10-percent retainage was withheld on the first two requests. On the third pay request, which was made during the shutdown for Fall planting, the retainage was reduced to 5-percent. The payment amount for each request is shown below:

No. 1	06/12/1995 to 07/21/1995	\$101,594.33
No. 2	07/21/1995 to 08/26/1995	\$126,552.34
No. 3	08/26/1995 to 10/01/1995	\$198,606.46
No. 4-Final	10/01/1995 to 11/16/1995	\$ 45,244.19

3.10 Substantial Completion

The date of Substantial Completion was November 15th, 1995.

3.11 Final Completion and Approval

Joel Chavez of the AMRB made periodic inspections of the work in progress throughout the project. Final completion will be November 15, 1996.

3.12 Final Payment

Final payment was made to the Contractor in December 1995. A copy of the payment request has been included in ATTACHMENT 3.

4. CONSTRUCTION

4.1 Description of Project Plan

The project would consist of one major site (Lehigh) and three minor sites (Stockwater Dam Site, Hughes F Site 1, and Hughes F Site 2). The objective of the project was to be as follows:

Lehigh Site - Excavate the buried coal waste, neutralize that coal waste, and replace. All disturbed areas would be revegetated. This work would neutralize acidic coal waste with lime kiln dust and establish a viable vegetative cover for approximately 60% of the total coal waste at the Lehigh Site. The remainder of the coal waste would be excavated, treated, and replaced in a subsequent project.

Stockwater Dam Site - Excavate the waste material behind the dam and in the drainage, haul to the Lehigh Site, neutralize, and place. The dam would be rebuilt and an emergency spillway for the dam would be excavated. All disturbed areas would be revegetated.

Hughes F Site 1 - The coal slack area would be neutralized, imported cover soil would be placed over the neutralized area, erosion control mat would be placed over the cover soil, and all disturbed areas would be revegetated.

Hughes F Site 2 - The coal slack area would be neutralized, imported cover soil would be placed over the neutralized area, erosion control mat would be placed over the cover soil, and all disturbed areas would be revegetated.

4.1.1 Lime Kiln Dust Source Area

The AMRB had purchased a supply of lime kiln dust from Continental Lime under Project MT DSL-AMRB No. 94-M02. This supply of the lime kiln dust was located approximately 6 miles west of Townsend, in a storage pit in Section 33, T7N, R1E, Broadwater County, Montana. This area can be accessed by leaving Highway 287 just north of Townsend across the Missouri River, turning on the paved road to the west of Highway 287 and proceeding to the Continental Lime Plant.

The contractor would be required to load the lime kiln dust into trucks at the pit. Because the kiln dust is a fine powder, loading of the lime kiln dust would need to be completed in a manner that would minimize the amount of material being released to the environment. The contractor would be required to have his loading plan approved by the owner prior to construction. If belly dump trailers were used to transport the material, rubber seals on the gates and tarping would be required. Respiratory equipment approved for use with lime kiln dust would be required for those persons in close contact with the lime kiln dust. It was anticipated that about 15-percent of the kiln dust would be found to have solidified into large blocks. As these blocks were encountered during excavation, they would be separated and left in the supplier's pit. We planned to use the truck scales at the Continental Lime Plant to measure the number of tons of lime kiln dust hauled.

4.1.2 Lehigh Site

The purpose of this project is to neutralize acidic coal waste with lime kiln dust and establish a viable vegetative cover. An Air Force cable is buried in the vicinity of this site. This cable would be staked by the Engineer prior to construction and shall not be disturbed.

The Contractor would strip, stockpile and replace about 4000 cubic-yards of cover soil. Cover soil would be stripped to within one-half inch (1/2-inch) of the underlying coal waste. Care would be taken to prevent the underlying coal waste from being mixed with the salvaged cover soil. Cover soil thickness at the site (based on eleven test holes) ranges from zero to ten inches. The average cover soil thickness was about 4.4 inches.

After cover soil stockpiling, the Contractor would excavate the coal waste (91,000 CY) from the lime treatment area and neutralize it with lime kiln dust. Approximately 16,970 tons of lime kiln dust was stored at the site during a satellite project. The Contractor would haul an additional 3,750 tons of lime kiln dust from Continental Lime, Inc. to the Lehigh project site during the course of this project. The Contractor would incorporate this lime kiln dust into the coal waste.

The coal waste stripping depth varies considerably. The Contractor would be required to submit a coal waste stripping, neutralizing, and replacing plan for the project. The Contractor would temporarily stockpile the initial box cut or pit. Each successive pit can then be placed in the previous hole until the temporary stockpile is placed in the final hole.

The accurate mixing of the lime kiln dust with the coal waste is critical to the success of this project. A closed auger system would be used to remove the lime kiln dust from the storage trenches. Once the "cake" on the surface of the lime kiln dust in the storage trenches has been disturbed (during removal of lime kiln dust from the trenches) water would be applied to the lime kiln dust as necessary to suppress dust. The lime kiln dust from the auger would be loaded and transported to the storage silos in contained/completely sealed vehicles or other transport mechanisms. The storage silos would be equipped with accurate calibration/weighing feeder devices at the outlet of the silo. The Contractor would prepare the lime kiln dust as necessary to travel through the storage silo and the feeder/calibration mechanism.

Once excavated, the coal waste would be crushed to one inch minus. After crushing, the coal waste would be transported to the "pug" mixer along a belt feeder equipped with a scale for weighing the coal waste stream. The coal waste and the lime kiln dust would be completely mixed in a "pug" mixer. The belt from the loading hopper to the mixing mechanisms in the "pug" mixer would be covered to limit the loss of the lime kiln dust to the environment. Once the coal waste has been neutralized, it would be placed back into an empty section of the coal waste excavation area.

The Contractor would remove the lime kiln dust from the storage trenches as necessary. The lime kiln dust hauled during the course of this project would be incorporated into the coal waste as the lime kiln dust was hauled to the site. The rate of lime kiln dust mixing would be 300 tons of lime kiln dust to 1,000 tons of coal waste. Note that the density of this coal waste is 1,720 lb/CY. As a result, the lime kiln dust mixing rate translates to 300 tons lime kiln dust to 1,163 CY of coal waste (1 ton kiln dust/3.88 CY coal waste).

Following placement of the neutralized coal waste the Contractor would rough grade the site to match the existing contours. This surface would then be covered with neutralized soil from the Dam Site. After sub-soil placement, the Contractor would replace all of the cover soil that had been salvaged from the coal waste removal area. This cover soil would be placed in one six inch lift and would be neutralized with calcium carbonate (CaCO_3) at the rate of 20 tons/acre/6" slice. Care would be taken to avoid mixing the cover soil with the underlying neutralized coal waste. An additional 1,500 cubic yards of cover soil would need to be imported from a specified borrow area on the site. The borrowed coversoil would not be mixed with the material salvaged from the coal waste area and would not require neutralization. The Contractor would be required to reclaim the coversoil borrow area.

All disturbed areas would be drill seeded and fertilized. Then mulch (47,100 pounds) would be applied and crimped over all of the 15.7 vegetated acres. The storage pits, embankments and cover soil stockpiles would not be revegetated. The Contractor would build a 780 foot long straw bale dike along the bottom of the construction area.

4.1.3 Stockwater Dam Site

The Stockwater Dam Site is located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 22, R12E, T15N approximately 0.6 miles east of the main Lehigh Site. The objective would be to excavate the waste material from behind the dam, transport this material to the main Lehigh Site, and neutralize this material with calcium carbonate (CaCO_3). This material would then be placed with the neutralized coal waste on the hillside from which the coal waste was excavated. In addition, the Contractor would excavate an emergency spillway for the dam using this excavated material used to rebuild the dam.

The Contractor would strip and stockpile the cover soil (410 CY) from the area to be excavated for the emergency spillway. Approximately 3,350 cubic-yards of acidic soil would be excavated from behind the dam and from within the drainage above the dam. This material would be transported to the main Lehigh site. After neutralizing this material with lime at the rate of 20 tons/acre/6" slice (83 tons total), it would be used as a subsoil and would be placed between the neutralized coal waste and coversoil at the Lehigh site.

The Contractor would excavate the emergency spillway (1,040 CY). This excavated material would be used to rebuild the dam because the current dam has been breached. The material comprising the existing dam would be removed, replaced and compacted by the Contractor to rebuild the lower portion of the dam.

The materials excavated from the spillway would be deposited in uniform layers and compacted. The Contractor would place the material in horizontal layers in not more than 6 compacted inches per lift. The material would have the optimum moisture content required for the purpose of compaction. It would be compacted by tamping rollers having staggered and uniformly spaced knobs, and of sufficient weight for proper compaction. The dry density of the soil fraction in the compacted material would not be less than 95 percent of the laboratory standard maximum soil density (dry) as determined by the Proctor compaction test for the materials being compacted.

Any rock encountered during the excavation of the emergency spillway would be temporarily stockpiled and used as facing material on the upstream side of the dam following placement and compaction of the excavated material from the spillway.

Place the stockpiled cover soil over the dam and emergency spillway to a minimum depth of six inches. All of the stockpiled cover soil would be placed by the Contractor over these areas. The Contractor would install the erosion control mat (1,250 Sq Yd) on the downstream dam face and on the emergency spillway. The erosion control mat would be installed longitudinally along the spillway. The erosion control mat would be North American Green SC150 or equivalent with 8 inch staples. This mat would meet the minimum requirements of Section 340.00 of the Technical Specifications, Erosion Control Mat. Neutralize the cover soil underlying the previously excavated waste material (1.29 acres). The Contractor would incorporate (CaCO_3) at the rate of 20 tons/acre/6"slice (25.8 tons total).

The Contractor would revegetate all disturbed areas, including the access road (4.60 acres) in accordance with the Technical Specifications and as described within this document. All disturbed areas would be drill seeded (110.4 pounds) and fertilized (598 pounds). Then mulch (13,800 pounds) would be applied and crimped over all of the 4.60 vegetated acres.

4.1.4 Hughes F Site 1

The Hughes F Site 1 is located in the NE $\frac{1}{4}$ of Section 32, R12E, T15N. This site is located approximately 2 $\frac{1}{2}$ miles southwest of the main Lehigh Site. The objective would be to neutralize the waste material with lime, and place cover soil over the neutralized coal waste. The necessary permits to cross the stream would be obtained by the Engineer prior to construction.

The Contractor would neutralize the coal waste area (60' x 110') with calcium carbonate (CaCO_3). Lime would be thoroughly mixed into the top 6 inches of the coal waste at the rate of 20 tons/acre/6 inch slice (3.03 tons total) in accordance with Technical Specification 301.00, Lime Products. The coal waste area would then be covered with 6 inches of cover soil (125 CY) provided by the Contractor. The cover soil would meet the requirements of Technical Specification 310.00, Cover Soil. Place the erosion control mat (735 Sq Yd) over the cover soiled area. The erosion control mat would be North American Green SC150 or equivalent with 8 inch staples. The Contractor would revegetate all disturbed areas including the access road as directed by the Owner (0.57 acres). All disturbed areas would be drill seeded (13.68 pounds) and fertilized (74.1 pounds). Then mulch (1,710 pounds) would be applied and crimped over all of the 0.57 vegetated acres.

4.1.5 Hughes F Site 2

The Hughes F Site 2 is located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 29, R12E, T15N. This site is located approximately 2 miles southwest of the main Lehigh Site. The objective would be to neutralize the waste material with lime, and place cover soil over the neutralized coal waste. The necessary permits to cross the stream would be obtained by the Engineer prior to construction.

The Contractor would neutralize the coal waste area (20' x 10') with calcium carbonate (CaCO_3). Calcium carbonate (CaCO_3) would be thoroughly mixed into the top 6 inches of the coal waste at the rate of 20 tons/acre/6 inch slice (0.1 tons total) in accordance with Technical Specification 301.00, Lime Products. The coal waste area would then be covered with 6 inches of cover soil (4 CY) provided by the Contractor. The cover soil would meet the requirements of Technical Specification 310.00, Cover Soil. Place the erosion control

mat (25 Sq Yd) over the cover soiled area. The erosion control mat would be North American Green SC150 or equivalent with 8 inch staples. The Contractor would revegetate all disturbed areas including the access road (0.01 acres). All disturbed areas would be drill seeded (0.23 pounds) and fertilized (1.3 pounds). Then mulch (30 pounds) would be applied and crimped over all of the 0.01 vegetated acres.

4.2 Major Equipment List

<u>Type</u>	<u>Make/Model</u>	<u>Size/Horsepower</u>	<u>No. on Job</u>
Bulldozer	Caterpillar '79/D-8K	300 Hp	1
Bulldozer	Caterpillar D-7G	200 Hp	1
Bulldozer	Caterpillar D-6CK	140 Hp	1
Scraper	Caterpillar '73/627	20 yd/ 450 Hp	2
Hydraulic Excavator	Hitachi EX200		1
Hydraulic Excavator	Caterpillar EL240C	1.8 yd/ 148 Hp	1
Wheel Loader	Case 921B	5 yd	1
Wheel Loader	Caterpillar/966F	5 yd/ 200 Hp	1
Wheel Loader	Caterpillar/966E	5 yd/ 200 Hp	1
Backhoe-Loader	John Deere/410B		1
Skid Steer Loader	John Deere/90		1
Farm Tractor	John Deere 4430		1
Seed Drill	John Deere 27B Impel-A-Drill	12 Ft	1
Offset Disc	John Deere '83	15 Ft	1
Straw Spreader	Hay Buster '90/256		1
Crimper	Home made	10 Ft	1
Truck/trailer	Kenworth '92/belly dump	37 Ton/400 Hp	2
Fuel Truck		8000 Gal	1
Fuel Truck	Dodge	8000 Gal	1
Water Truck	International '61	3000 Gal	1
Water Truck		5500 Gal	1
Water Truck	Kenworth '85	4000 Gal	1
Farm Tractor	Ford 9600		1
Farm Disc	Wishek '83/612	14 Ft	1
Bin Feeder & scale	Marquette	2 Bin	1
Pug mill	Pioneer/Twin Shaft 425	400 yd per hr	1
Trap and Screen	Kolberg	4' x 8'	1
Single Deck Screen	Kolberg		1
Stacking Conveyor	Kolberg		1
Generator Set	Magna Max	405 KW	1
Control House			1
Screen	Read Screen -All		1
Water Pump		6-Inch	1
Conveyor	Hovis	10-Inch	1

4.3 Contractor Employees

On various days, the contractor had from two (2) to nine (9) employees working at the project site. During lime kiln dust delivery operations, 1 additional operator was at the Townsend pit and 2 truck drivers made the deliveries to the site. Monte Weeden and John Prince worked on the site at various stages of the project. The maximum number of contractor employees were on the site during the coal waste processing operation which lasted for 33 operating days. During this operation from 7 to 9 employees (not including personnel at Townsend or truck drivers) worked 12 hour shifts. The remainder of the time

Weeden Construction had from 2 to 4 employees assigned to different tasks. When lime was spread on the coversoil, Prince Construction delivered the lime using its trucks and operators.

4.4 Construction Activities

June 12th was the first day of construction. Monte Weeden and two operators were at the site. They removed 100 scraper loads of coversoil from the top of the ridge. A D7 dozer went down to drain the stockwater pond. Prince delivered a load of lime kiln dust and put it into Pit 1A. Weeden started excavating coal waste at the east end of the project and stockpiling it to the southeast.

On June 13th, Monte Weeden and two operators were at the site with two 627 scrapers and a D7 bulldozer operating. They removed 41 scraper loads of coversoil. Prince delivered a load of lime kiln dust and put it into Pit 1A. Most of the day was spent excavating coal waste and building a stockpile.

On June 14th, Monte Weeden and three operators were at the site with two 627 scrapers and a D7 bulldozer operating. The scrapers removed 173 loads of coversoil at the Lehigh Site. The dozer was used to incorporate lime into the soil at the Hughes F Site 2. The lime was hand raked into the Hughes F Site 2. Weeden used 132 bags (50-lb. bags) of lime to neutralize the soil. After neutralization, the Hughes F Site 1 was seeded with 14.56 pounds of the specified mix and fertilized with 40.6 pounds of fertilizer. After neutralization, the Hughes F Site 2 was seeded with 0.526 pounds of the specified mix and fertilized with 1.45 pounds of fertilizer. One roll of erosion control blanket was installed at the Hughes F Site 2. Twelve (12) rolls of erosion control blanket were installed at the Hughes F Site 1.

On June 15th, Monte Weeden and two operators were at the site with two 627 scrapers operating. They removed and stockpiled 46 scraper loads of coversoil in an hour and a half. Then they spent the remainder of the day excavating coal waste from an area where they intended to set-up the pug. The area they chose was shown on the site plans to be off the coal slack area. However, after excavating four feet of coal slack from the area and not reaching the bottom, the Contractor backfilled the pit with coal waste and moved to another area further to the west. After leveling the processing area, Weeden started excavating at the west end and started building a coal waste pile for processing.

On June 19th, three operators from Weeden Construction were at the site with two 627 scrapers and two bulldozers operating. They removed another 120 cubic-yards of coversoil and built a haul road from the Lehigh Site down to the Stockwater Dam Site. They spent most of the day excavating coal waste and building a stockpile. About 800 feet of silt fence was constructed along the creek. The silt fence was substituted for a straw bale dike at the Contractor's request due to the non-availability of certified straw bales. A truck and pup from Prince delivered one load of lime kiln dust to stockpile during the day.

On June 20th, two operators from Weeden Construction were at the Stockwater Dam Site. One 627 scraper and an hydraulic excavator removed 510 cubic-yards of waste material from the pond. A bulldozer was occasionally used during this operation. The scraper was also used to excavate and stockpile 592 cubic-yards from the existing dam. At the Lehigh Site, a truck and pup from Prince delivered one load of lime kiln dust to stockpile.

On June 21st and 22nd, two operators from Weeden Construction were at the Stockwater Dam Site. Two 627 scrapers and an hydraulic excavator were used to remove 923 cubic-yards of coal waste from the pond. At the Lehigh Site, a truck and pup from Prince delivered one load of lime kiln dust to stockpile on June 21st.

On June 26th and 27th, two operators from Weeden Construction were at the Stockwater Dam Site. Two 627 scrapers and an hydraulic excavator were used to remove 1880 cubic-yards of coal waste from the pond. At the Lehigh Site, a truck and pup from Prince delivered one load of lime kiln dust to stockpile in Pit 1A on the 26th and two loads on the 27th. On the 27th, rain showers made the road up to the lime storage area difficult; so, the trucks were assisted by a bulldozer. Monte Weeden came out to the site to help out.

Monte Weeden and two operators worked at the Stockwater Dam Site on June 28th. Two 627 scrapers and an hydraulic excavator were used to remove another 448 cubic-yards of coal waste from the pond. Then the two scrapers, a D8 bulldozer, and the hydraulic excavator were used to excavate approximately 500 cubic-yards of material from the existing dam. Late in the day the scrapers started to cut the keyway for the new dam by excavating 652 cubic-yards of material.

One June 29th, Monte Weeden and two operators again worked at the Stockwater Dam Site. Two 627 scrapers and a D8 bulldozer were used to rebuild the dam and excavate an emergency spillway. The spillway required the excavation of 1358 cubic-yards of material. Later in the day a scraper replaced coversoil on the Stockwater Dam Site. The rest of the equipment returned to the Lehigh Site where they went back to the job of excavating and stockpiling coal waste. During the day, a truck and pup from Prince delivered one load of lime kiln dust to stockpile in Pit 1A.

On June 30th, two operators from Weeden Construction were at the Lehigh Site with two 627 scrapers operating. They removed and stockpiled 100 cubic-yards of coversoil. The rest of the day was spent excavating coal waste from the west end and building a stockpile.

From July 1st through the 5th, Weeden Construction did not schedule work due to poor weather and was granted a weather delay. On July 6th, a scraper and bulldozer were used to excavate an extra lime storage pit under a contract change order. The pit required 593 cubic-yards of excavation. On July 10th, two personnel from Weeden Construction were at the Lehigh Site operating two 627 scrapers and a D8 bulldozer. They spent the day excavating coal waste from the west end and building a stockpile. During this period, samples of the stockpiled coversoil were collected and sent to Energy Labs for analysis.

On July 11th and 12th, three operators from Weeden Construction were at the Lehigh Site with two 627 scrapers and a dozer operating. They continued to excavate coal waste from the west end and to build stockpile. The poor weather continued causing delays. The Contractor was given a weather delay from the 13th to the 17th, because his pits were flooded.

On July 12th, the Contractor was informed that when coal waste processing began a change order would be issued to increase the amount of lime kiln dust used in the process from 300 tons per 1000 tons of coal waste to 320-340 tons per 1000 tons of coal waste. This was necessary because all of the kiln dust did not meet the size specifications of 100% minus 60-mesh and because the kiln dust did not provide 100% effective calcium-carbonate

equivalence.

On July 17th, three operators from Weeden Construction were at the Lehigh Site with two 627 scrapers and a dozer operating. They continued to excavate coal waste from the west end and to build stockpile. During the day Prince Construction started to move equipment onto the site for processing the coal waste.

On July 18th, 19th, and 20th, Weeden had two operators at the site using a scraper, and two bulldozers to turn and spread the coal waste in an effort to dry it. Prince moved his pug mill to the site on the 20th. Then he delayed moving the rest of the equipment in until July 24th due to continued rain.

On July 24th, Monte Weeden and three operators were at the site using the 627 scrapers, an hydraulic excavator, a D7 bulldozer, and a D8 bulldozer. One dozer was assigned to drying coal waste. The other equipment stockpiled 54 scraper loads of coversoil which was salvaged along the bottom of the slope at the west end of the project area. Prince delivered a load of lime kiln dust and put it into a storage pit.

On July 25th, Weeden and two operators were engaged in drying out coal waste. John Prince and three of his personnel set up the equipment to run the pug mill operation. During the day two more loads of lime kiln dust were delivered.

On July 26th, seven laborers, operators, and supervisors were on site to begin processing the coal waste. One 966 wheel loader was assigned to feed lime to the lime bin. Another 966 wheel loader was assigned to the task of hauling processed material back to the backfilling and regrading area. A D8 dozer was working the coal waste stockpile, pushing material toward a D6 dozer which was feeding a trap. Big chunks of caked lime kiln dust were causing feeding and mechanical problems with the system. Prince was going to bring in equipment to pre-screen this material, but still got about 5440 ton of waste and lime processed. The delivery of lime kiln dust continued during the day.

On July 27th, Prince decided to feed the coal waste trap with an excavator. This improved the operation. On the 27th and 28th, Prince and three of his men operated the plant processing 3000 tons of coal waste and lime. Weeden had three operators feeding the operation and excavating additional coal waste with a scraper. The delivery of lime kiln dust continued.

On July 31st, ten laborers, operators, and supervisors were on site processing the coal waste. One wheel loader was assigned to haul lime kiln dust from the storage pit and feed lime it into a screen. Another wheel loader was picking up the screened lime and feeding into the lime bin. A bulldozer was back working the coal waste trap area. Two scrapers were excavating coal waste and hauling it directly to the trap area. A 966 wheel loader was assigned to the task of hauling processed material back to the west end. On this day 1940 tons of coal waste and lime were processed, one delivery of lime kiln dust was made, and 96 cubic-yards of coversoil were salvaged.

On August 1st, seven personnel were engaged in processing the coal waste. One wheel loader was assigned to haul lime kiln dust from the storage pit and feed lime into a screen. Another wheel loader was picking up the screened lime and feeding into the lime bin. Two bulldozers were working the coal waste stockpile and one hydraulic excavator was feeding

equivalence.

On July 17th, three operators from Weeden Construction were at the Lehigh Site with two 627 scrapers and a dozer operating. They continued to excavate coal waste from the west end and to build stockpile. During the day Prince Construction started to move equipment onto the site for processing the coal waste.

On July 18th, 19th, and 20th, Weeden had two operators at the site using a scraper, and two bulldozers to turn and spread the coal waste in an effort to dry it. Prince moved his pug mill to the site on the 20th. Then he delayed moving the rest of the equipment in until July 24th due to continued rain.

On July 24th, Monte Weeden and three operators were at the site using the 627 scrapers, an hydraulic excavator, a D7 bulldozer, and a D8 bulldozer. One dozer was assigned to drying coal waste. The other equipment stockpiled 54 scraper loads of coversoil which was salvaged along the bottom of the slope at the west end of the project area. Prince delivered a load of lime kiln dust and put it into a storage pit.

On July 25th, Weeden and two operators were engaged in drying out coal waste. John Prince and three of his personnel set up the equipment to run the pug mill operation. During the day two more loads of lime kiln dust were delivered.

On July 26th, seven laborers, operators, and supervisors were on site to begin processing the coal waste. One 966 wheel loader was assigned to feed lime to the lime bin. Another 966 wheel loader was assigned to the task of hauling processed material back to the backfilling and regrading area. A D8 dozer was working the coal waste stockpile, pushing material toward a D6 dozer which was feeding a trap. Big chunks of caked lime kiln dust were causing feeding and mechanical problems with the system. Prince was going to bring in equipment to pre-screen this material, but still got about 5440 ton of waste and lime processed. The delivery of lime kiln dust continued during the day.

On July 27th, Prince decided to feed the coal waste trap with an excavator. This improved the operation. On the 27th and 28th, Prince and three of his men operated the plant processing 3000 tons of coal waste and lime. Weeden had three operators feeding the operation and excavating additional coal waste with a scraper. The delivery of lime kiln dust continued.

On July 31st, ten laborers, operators, and supervisors were on site processing the coal waste. One wheel loader was assigned to haul lime kiln dust from the storage pit and feed lime it into a screen. Another wheel loader was picking up the screened lime and feeding into the lime bin. A bulldozer was back working the coal waste trap area. Two scrapers were excavating coal waste and hauling it directly to the trap area. A 966 wheel loader was assigned to the task of hauling processed material back to the west end. On this day 1940 tons of coal waste and lime were processed, one delivery of lime kiln dust was made, and 96 cubic-yards of coversoil were salvaged.

On August 1st, seven personnel were engaged in processing the coal waste. One wheel loader was assigned to haul lime kiln dust from the storage pit and feed lime into a screen. Another wheel loader was picking up the screened lime and feeding into the lime bin. Two bulldozers were working the coal waste stockpile and one hydraulic excavator was feeding

the trap. A 966 wheel loader was assigned to the task of hauling processed material back to the backfilling and regrading area. On this day 2010 tons of coal waste and lime were processed and a containment system was installed around a fuel tank.

On August 2nd, seven personnel and Monte Weeden continued to process the coal waste. On this day 2300 tons of coal waste and lime were processed and one load of lime kiln dust was delivered. The excavator was also used to clean-up the sides of lime storage trench 1B.

On August 3rd, seven personnel along with Monte Weeden and John Prince continued to process the coal waste. On this day 1720 tons of coal waste and lime were processed. However, repairs on processing equipment occupied much of the morning. On August 4th, seven personnel continued to process stockpiled coal waste. On this day 2045 tons of coal waste and lime were processed.

On August 7th and 8th, seven personnel processed coal. On the 7th, 1775 tons of coal waste and lime were processed, while one scraper excavated more coal waste. On the 8th, 1985 tons of coal waste and lime were processed and one load of lime kiln dust was delivered.

On August 9th and 10th, seven personnel were at the site with Monte Weeden. The Prince crew was primarily engaged in processing 3750 tons of coal waste and lime and in repairing equipment. On the 9th, Weeden had his crew start excavating coal waste from along the bottom of the drainage. This material was wet and needed to be spread to dry. On the 10th, Weeden had his crew haul some more coal waste to stockpile and also salvaged another 435 cubic-yards of coversoil.

On August 11th, seven personnel were at the site with Monte Weeden. The Prince crew processed 1600 tons of coal waste and lime. Weeden's operators hauled more coal waste to stockpile and feed coal waste to the pug mill.

On August 14th, eight personnel were at the site with Monte Weeden. The Prince crew processed 2265 tons of coal waste and lime. Weeden's operators hauled more coal waste to stockpile and fed coal waste to the pug mill. A road was excavated along the side on lime pit 1B so belly dumpers could be used to deliver lime. During the day, one load of lime kiln dust was unloaded into a storage trench at the site.

On August 15th, eight personnel were at the site with John Prince. The Prince crew tried to set-up an auger to feed lime to the screen. Because of the chunks in the lime kiln dust the auger didn't work and Prince went back to feeding the screen with a wheel loader. With all the switching around, only 404 tons of coal waste and lime were processed. Weeden's operators loaded and hauled more coal waste to stockpile and fed coal waste to the pug mill. The excavation operation employed a dozer, a scraper, and a hydraulic excavator. During the day, one load of lime kiln dust was unloaded into a storage trench at the site.

On August 16th, 17th, and 18th, eight personnel were at the site. During this period, the Prince crew processed 6,335 tons of coal waste and lime. Weeden's operators loaded and hauled more coal waste to stockpile and fed coal waste to the pug mill. The excavation operation employed a dozer, a scraper, and a hydraulic excavator. During the three day period, deliveries of lime kiln dust continued. Weeden contracted with Lavelle Trucking to supplement Prince's hauling capability. However, when three loads of lime kiln dust were

rejected due to the amount of oversized material, Lavelle quit the job. Before these loads were rejected, Weeden Construction had agreed to screen off oversized material at the Townsend loading site. Compensation for this extra work was addressed in Change Order No. 2. This operation had not been implemented when the loads were rejected.

On August 21st, 22nd, and 23rd, eight personnel were at the site. During this period, the Prince crew processed 5,120 tons of coal waste and lime. Weeden's operators began to rehandle the 30,000 cubic-yard wet material stockpile to the trap feeding area, stripped coversoil from the east end of the project and fed coal waste to the pug mill. Due to the extra work required throughout the operation for coal waste drying and rehandling, the Contractor was granted a change order for rehandling this stockpile. During the three day period, Prince continued to deliver lime kiln dust at the rate of 1-2 loads per day.

On August 24th, Prince's five employees processed 1750 tons of coal waste and lime. Weeden's two operators and superintendent continued to feed coal waste to the pug mill from stockpiles. The excavation operation employed a dozer, a scraper, and a hydraulic excavator. Rain started in the afternoon and shut down the processing operation until August 28th. Prince's lime kiln dust hauling operation continued despite the weather.

On August 28th, Prince's five employees processed 1810 tons of coal waste and lime. They also tried out another auger and screen arrangement to feed the lime. Weeden's two operators and his superintendent continued to feed coal waste to the pug mill from stockpiles using a dozer, a scraper, and a hydraulic excavator. Weeden and one employee backfilled lime storage Pits 2A and 2B with material from the adjacent stockpile. Prince's lime kiln dust hauling operation continued.

On August 29th, Prince's five employees processed 1775 tons of coal waste and lime. Weeden's two operators and superintendent continued to feed coal waste to the pug mill from stockpiles using a dozer, a scraper, and a hydraulic excavator. Prince's lime kiln dust hauling operation continued at its 1-2 load per day rate.

On August 30th and 31st, John Prince and his five employees processed 4995 tons of coal waste and lime. They started to utilize the auger and screen arrangement to feed lime. Two operators and Weeden's superintendent continued to feed coal waste to the pug mill from stockpiles using a dozer, a scraper, and a hydraulic excavator. A third scraper operator backfilled lime storage Pits 4A and 4B with material from the adjacent stockpiles. Prince's lime kiln dust hauling operation continued.

On September 1st, Prince's five employees processed 1650 tons of coal waste and lime. Weeden's superintendent and one operator continued to feed coal waste to the pug mill from stockpiles. Prince's lime kiln dust hauling operation continued. The crews took the weekend off and then observed the Labor Day Holiday.

On September 5th, 6th, and 7th, five employees from Prince Construction processed a total of 7750 tons of coal waste and lime. Two operators and Weeden's superintendent continued to feed coal waste to the pug mill from stockpiles using a dozer, a scraper, and a hydraulic excavator. A third scraper operator continued to backfill exhausted lime storage pits. Prince delivered one last load of lime kiln dust from Townsend.

On September 8th, Prince's five employees processed 2265 tons of coal waste and lime

consuming the last lime kiln dust available. Weeden had four employees on site to feed coal waste to the pug mill, and to continue backfilling lime storage pits. The crew also spread out waste material which had been stockpiled when the stockwater pond was excavated.

On September 9th, Prince started demobilizing his equipment and cleaning up the site. Weeden had two employees at the site backfilling the extra lime storage pit.

On September 11th, Weeden had two operators and a supervisor working at the Lehigh Site. They cleaned-up the area where the pug mill had been set-up, backfilled lime storage pits, and started moving the remainder of the coal waste stockpile back to the excavated area.

On September 12th and 13th, Weeden had two operators and a supervisor working at the Lehigh Site. They finished moving the coal waste stockpile and began replacing coversoil over the backfilled lime storage pits on the 12th. Scrapers and a dozer were used in these operations. The next day this crew continued spreading coversoil on the lime storage area.

The Contractor was unable to work on September 14th because his shipment of lime did not arrive. On September 15th, 72 tons of 200 mesh lime arrived on Prince's pneumatic trucks. The Contractor blew the lime onto the waste material that had been excavated from the stockwater pond at the rate of 1.75 tons of pure lime per 100 cubic-yards. Then the coversoil at the Stockwater Dam Site was neutralized at the rate of 30 tons per acre per 6-inch layer. The liming rates had been adjusted based on the results of soil samples which had been analyzed by Energy Labs. A disc towed by a farm tractor was used to incorporate the lime. While lime was being applied at the stockwater pond, two scrapers and a dozer were used to start spreading the first 7-inch layer to cover soil over the regraded processed coal waste.

On September 18th, Weeden sent two men to the site to replace the coversoil on the haul road between the Lehigh Site and the Stockwater Dam Site.

On September 19th, 20th, 21st, and 22nd, coversoil was replaced on the regraded processed coal waste area and on an adjacent area of coal waste that had been stripped but had not been treated. In areas where processed coal had been dumped and regraded, the coversoil was replaced in two 6-inch to 7-inch thick layers. Each layer was neutralized at the rate of 60 tons of pure lime per acre per 6-inch layer. A disc towed by a farm tractor was used to incorporate the lime. Only one 6-inch layer of coversoil was replaced on the area of coal slack that had been stripped but not treated. This soil was also neutralized. Weeden's construction superintendent and one other employee worked at the site. Prince had from one to two pneumatic trucks delivering finely crushed lime to the site. Each truck carried about 36 tons of product and made one round trip per day to Montana Limestone in Warren, Montana.

On September 25th, Weeden's construction superintendent and one other employee finished replacing cover soil and continued the process of neutralizing cover soil. Prince delivered 1 load of lime. Weeden also repaired the silt fence.

On September 26th, 27th, 28th, and 29th, Weeden's construction superintendent and one other employee continued the process of neutralizing the top layer of coversoil placed over

the processed coal waste. Prince delivered 2 to 3 loads of lime from Warren per day. Weeden was also gradually pulling out his equipment.

On September 30th, 1995, Weeden spread the last two loads of lime over the top coversoil lift and disked it into the ground. The entire area which would be reseeded was then disked. The project went into a shutdown until the Fall planting period.

On November 9th, 1995, Agri Basics fertilized the disturbed areas at the Lehigh and Stockwater Dam Sites. Then the fertilized area was disked to mix the fertilizers. It snowed that night. The next day was too cold to work. On November 11th, the temperature was back up to 40-50 degrees. Weeden sent one employee to the site to drill seed.

On November 13th, two of Weeden's employees were at the site. Mulching got started; but, the crimper had 1½-inch deep blades on a 4-inch spacing and was completely ineffective. Consequently this crimper was rejected. Weeden's crew went back to Lewistown to get another crimper. Ninety-six round bales of straw, which would provide about 3000-pounds of mulch per acre, had already been delivered to the site.

On November 14th, about 15 acres were mulched and crimped by a two man crew. They utilized an old Haybuster which was towed by a JD tractor to spread the straw. The other employee towed the crimper behind a Ford tractor. Because much of the soil in the lime storage pit areas was rocky, the crimper didn't get good penetration in some areas. During the same day, four rolls of erosion control mat were installed on the dam face at the Stockwater Dam Site.

On November 15th, 1995 the job was completed. The remaining acreage at the Lehigh Site was mulched and crimped by a two man crew. The crew then mulched and crimped the Stockwater Dam Site.. Erosion control mat was then installed on the spillway as specified in the plan.

4.5 Quantities Used

All work items except mobilization were bid on a unit price basis. An on-site construction inspector measured items for payment and recorded load counts. Bid quantities were adjusted based on field measurements. Some unit prices changed during construction to account for changes in work requirements.

<u>Item</u>	<u>Amount</u>	<u>Unit Cost</u>
PROVIDE WATER	106.85 KGaL	\$54.60 per KGaL
REMOVE, STOCKPILE & REPLACE COVERSOIL		
Lehigh Site	9,025 CY	\$1.75 per cubic-yard
Stockwater Dam Site	410 CY	\$2.00 per cubic-yard
NEUTRALIZE COVER SOIL WITH CaCO ₃		
At 60 TONS/ACRE	9,025 CY	\$3.64 per cubic-yard
LOAD, HAUL THE LIME KILN DUST TO LEHIGH AND UNLOAD THE KILN DUST	2,381 Tons	\$18.54 per ton
EXCAVATE COAL WASTE, NEUTRALIZE WITH LIME KILN DUST AND REPLACE	46,712 Tons	\$4.76 per ton
EXCAVATE/TRANSPORT/NEUTRALIZE WITH 35 LB CaCO ₃ PER CY/PLACE WASTE MATERIAL FROM STOCKWATER DAM	3,761 CY	\$1.08 per cubic-yard
NEUTRALIZE COVERSOIL AT STOCKWATER DAM SITE AT 30 TONS CaCO ₃ /ACRE/6" SLICE	0.32 Ac	\$1,926.50 per acre
NEUTRALIZE COAL WASTE 20 TONS CaCO ₃ /ACRE/6" SLICE		
Hughes F Site 1	0.16 Ac	\$2,798.00 per acre
Hughes F site 2	0.005 Ac	\$2,798.00 per acre
REMOVE/REPLACE/COMPACT EXISTING DAM MATERIAL	2,244 CY	\$1.80 per cubic-yard
REPAIR STOCKWATER DAM/ EXCAVATE SPILLWAY	1,358 CY	\$1.00 per cubic-yard
PROVIDE & PLACE EROSION CONTROL MAT	2,030 Sq Yd	\$2.21 per square-yard
FERTILIZE, SEED, AND MULCH	20.88 Ac	\$750.00 per acre
SILT FENCE	800 Ft	\$2.44 per foot
RECLAIM LIME STORAGE PITS		
Cover Soil	7,720 CY	\$1.00 per cubic-yard
Unclassified Fill	17,250 CY	\$2.80 per cubic-yard
MOVE STOCKPILED MATERIAL TO NEW LOCATION	30,000 CY	\$0.50 per cubic-yard

5. PAYMENT REQUESTS

5.1 Pay Request

Four pay requests were processed for this project as addressed under Section 3.9 above. Copies have been included in ATTACHMENT 1.

5.2 Cost per Site

SITE	ACREAGE	COST
LEHIGH SITE Continental Lime Century <u>Weeden</u>		\$116,107.20 \$363,913.41 <u>\$454,085.65</u>
Total	3.83 Acres	\$934,106.26
STOCKWATER DAM SITE	1.62 Acres	\$15,008.70
HUGHES F SITES	0.165 Acres	\$2,902.97

5.3 Total Project Cost

The total project cost for this project which addressed approximately 30-percent of the total site remediation amounted to \$1,107,535.22 (\$155,517.29 engineering and construction management plus \$952,017.93 construction). Total engineering costs were 16.3% of the construction cost. An analysis of the engineering costs versus construction costs is presented in ATTACHMENT 4.

The Lehigh Project included one main contract with M. K. Weeden Construction for reclamation work and two satellite contracts for purchase and delivery of lime kiln dust. The lime kiln dust was purchased directly from Continental Lime for a price of \$6.00 per ton at their plant in Townsend. The delivery contract was with Century Companies JV who hauled most of the product to Lehigh where it was placed in storage trenches. Continental Lime was paid \$116,107.20 for the lime kiln dust. Century earned \$363,913.41 for their part in the project. See Hughes F Maintenance Project DSL - AMRB No. 94-M03 Final Report for a description of Century's work. M. K. Weeden was paid \$471,997.32 under the reclamation phase. Consequently, the total construction cost for the project was \$952,017.93.

The engineering design cost for the purchase and delivery of the lime kiln dust was \$14,271.35. The engineering and design cost for the Lehigh reclamation bid package was \$31,440.08. Hence total engineering design costs for the project were \$45,711.43 or about

4.8% of the construction cost. The design work included backhoe test pits, lab analysis, preparation of 3 separate bid packages for lime purchase, lime trucking, and construction. The trucking and construction bid packages required developing of plans and specification, attending a Pre-bid Conference and responding to bidder questions. Construction inspection and project management for the lime delivery phase of the project cost \$48,203.43. Construction inspection and project management for the construction phase of the entire project cost \$61,602.43. Therefore, the total cost for construction management and inspection was \$109,805.86 or about 11.5% of the construction cost.

6. PROJECT SUMMARY

6.1 Summary of Project

Spectrum Engineering was assigned the task of preparing plans, specifications, and three separate bid packages for lime kiln dust purchase, for lime kiln dust haulage, and for remediation of the acid generating coal wastes at the west end of the Lehigh Site. Subsequently Continental Lime's Indian Creek Plant at Townsend was awarded the contract to supply the lime kiln dust at a bid price of \$6.00 per Ton FOB at the plant. Century Companies J.V. was awarded the contract to haul the lime to the Lehigh site and to place the lime kiln dust in storage trenches which they constructed. M.K. Weeden Construction was awarded the main contract to neutralize the coal waste at Lehigh.

During the first phase of the project Continental Lime's Indian Creek Plant supplied 16,970.49 tons of lime kiln dust and billed the State of Montana \$101,822.94. Century Companies J.V. was paid \$363,913.41 for their part in the project. In the second phase of the project Continental Lime's Indian Creek Plant supplied an additional 2380.71 tons of lime kiln dust and billed the State of Montana \$14,284.26. M.K. Weeden Construction consumed all of the lime kiln dust that was purchased in neutralizing 46,712.2 tons of coal waste at the Lehigh Site. For coal waste neutralization and other contracted work, Weeden received \$471,997.32.

With completion of this work, approximately 26-percent of the coal waste at Lehigh has been neutralized. The treated area covered 3.83 acres at the main Lehigh Site. The supply and construction cost for the work completed to date on the entire project stands at \$952,017.93. In addition, \$155,517.29 was spent for engineering services, construction management, and construction inspection.

6.2 Site Condition after Completion

The Stockwater Dam Site and the two Hughes F Sites were treated and revegetated. Approximately 3.83 acres at the Lehigh Site has been completed. This area contained approximately 26-percent of the total quantity of coal waste at the site. Although much work remains to be completed on the remaining area, the entire site was left in temporarily reclaimed condition. All facilities were removed. All pits and other excavations were backfilled. All areas which had been disturbed by construction were covered with at least 6-inches of neutralized coversoil. The coversoil was seeded, fertilized, and mulched. A silt fence was left along the bottom of the reclaimed slope to protect the creek until vegetation has been established.

6.3 Maintenance or Follow-up

The silt fence should be checked in the Spring. The revegetation progress should be monitored at all sites. At the Lehigh Site, the north side of the backfill area was recontoured as a long slope draining toward the creek. This slope is moderately steep and should be monitored for rill formation.

6.4 Construction Bid Package

Copies of the site plan drawings which were provided in the bid package are located in ATTACHMENT 5 at the back of the final report. These site plan drawings represent the reclamation engineering design (the plan from which the contractors bid the work).

6.5 As-Built Drawings

As-built drawings are located in ATTACHMENT 6.

7. COMMENTS/SUGGESTIONS

Approximately 17-percent of the lime kiln dust that was hauled up from Townsend was lost between the scale at Townsend and the scale on the pug mill feeder conveyor. About 2-percent of this loss can be attributed to the unloading system that was used during Century's contract. Part of the loss (about 1%) can be attributed to the wet conditions that caused the lime to cake. Approximately 1-percent could not be recovered from the storage pits. Another 2-percent was lost while hauling from the pits to the conveyor via wheel loaders. The remaining 11-percent loss is attributed to wind loss.

In addition to the physical loss of the product, the neutralization capacity of the lime kiln dust was only 72-percent as high as had been anticipated; so, the liming rate had to be increased during construction. The effective-calcium-carbonate-equivalence of the lime kiln dust was reduced to 90-percent based on the analysis on 16 samples. On top of the reduced equivalency, only 80-percent of the lime kiln dust removed from storage could meet the specification for passing a 60-mesh screen ($0.8 \times 0.9 = 0.72$).

The reported quantity of 54,317 cubic-yards of coal waste that was excavated and neutralized is a calculated number derived by converting 46,712.2 tons of coal waste processed to cubic-yards using a conversion factor of 1720 lbs. per cubic-yard (as defined in the bid package). This conversion factor was obtained from Dr. Doug Dollhopf's report and must represent the density of the material on a loose, dry basis. Based on field measurements the material reporting to the belt scale had a typical weight of 1870 lbs. per cubic-yard. Assuming the material had a 12-percent swell factor, the weight of the damp coal waste in the ground was about 2100 lbs. per cubic-yard. Using this weight factor, approximately 44,500 cubic-yards of wet coal waste would have been excavated and processed. This quantity is close to the volume computed using the thickness isopach.

In future contracts when quantities are going to be measured by a scale, we should make sure that our units of payment are specified in weights rather than in volumes because the scale will provide the most convenient and accurate method of measurement. If scales are used, provisions for adjusting for water content need to be included in the measurement and

payment section.

Weekly composite samples were taken and analyzed from the mixed material to determine the effectiveness of the liming application. The sample results are under ATTACHMENT 7 at the back of this report. In order to ensure that 100% of all material was neutralized, a great deal of excess lime was applied. Of the 15,843 tons used, only 8,069 tons were really required based on the weekly composite results with 7,774 tons being excess. I believe that acceptance of a lower confidence factor could save a great deal of money.

Other methods of completing the project should also be considered. It is going to be very difficult (and expensive) to find any haulers to haul in the kiln dust. Weeden Construction could not find replacements for LaVelle Trucking when they quit. Other options to be considered should include excavating all of the coal and placing it high and dry somewhere else within Gayle Evan's property. Off-site placement could include hauling it to an abandoned bentonite pit (bottom sealed and basic in pH which would work against the acidic nature of the coal). On-site the rototiller method with direct place of the lime would probably work better than the pug mill concept with a reduction of the tonnage required.

8. PHOTOGRAPHS/SLIDES

8.1 Listing

A description of the photographs taken to document the work performed is found at the back of the final report under ATTACHMENT 8. The numbers on each picture correspond to the listing which precedes the photographs. The pictures are organized according to the following topics:

<u>PICTURES</u>	<u>TOPIC</u>
1-39	Contractor's Equipment
40-46	Lehigh Pre-construction
47-153	Lehigh Construction
154-188	Stockwater Dam Site
189-195	Hughes F Site

ATTACHMENT 1

BID TABULATION

BID TABULATIONS				ENGINEER'S ESTIMATE			DONNETS, INC.			
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price	M. K. WEEDEN				
1.	1	Lump	Mobilization, Lehigh Site and Stock-water dam site	0.00	42,100.00	197,500.00	197,500.00	89,000.00	89,000.00	89,000.00
1.	1	Lump	Hughes F Sites 1 and 2	0.00	500.00	50.00	40.00	40.00	1,000.00	1,000.00
2.	25	KGAL	Private Water	0.00	\$4.60	1,155.00	100.00	2,500.00	75.00	1,875.00
3.	4000	C.Y.	Remove, stockpile and replace cover soil, Lehigh Site	0.00	1.75	7,000.00	1.50	6,000.00	1.40	5,600.00
410	410	C.Y.	Stockwater Dam Site	0.00	2.00	820.00	4.50	1,845.00	3.00	1,230.00
4.	4,000	C.Y.	Neutralize cover soil with CaCO ₃ at Lehigh	0.00	1.48	5,920.00	4.00	16,000.00	2.00	8,000.00
5.	3,750	Tons	Load, haul lime kiln dust to Lehigh and unload dust	0.00	18.54	69,325.00	18.00	67,500.00	20.00	75,000.00
6.	91,000	CY	Excavate coal waste, neutralize with lime kiln dust and replace at Lehigh	0.00	3.97	361,270.00	3.16	305,760.00	7.00	637,000.00
7.	1500	CY	Borrow and place 6" cover soil at Lehigh	0.00	1.30	1,950.00	1.00	1,500.00	1.25	1,875.00
8.	1,150	CY	Excavate/transport/neutralize with CaCO ₃ /place waste material from stockwater dam and channel	0.00	1.57	5,259.50	6.00	20,100.00	5.75	19,262.50
9.	1.29	Acre	Neutralize cover soil underlying excavated waste material at Stockwater Dam site	0.00	1273.90	1,643.33	1500.00	1,935.00	2,000.00	2,530.00
10.	0.169	Acre	Neutralize coal waste 20 tons CaCO ₃ /acre - Hughes F Site 1	0.00	2798.00	447.68	10,000.00	1,600.00	10,000.00	1,600.00
0.065	0.065	Acre	Hughes F Site 2	0.00	2793.00	13.99	10,000.00	50.00	75,000.00	375.00
11.	2,900	CY	Remove/replace/compact existing dam material	0.00	1.80	5,220.00	1.00	2,900.00	6.00	17,400.00
12.	1,040	CY	Repair Stockwater Dam/erective spillway	0.00	1.00	1,040.00	1.00	1,040.00	3.00	3,120.00
13.	125	CY	Provide and place cover soil - Hughes F Site 1	0.00	.32	40.00	.50	62.50	20.00	2,500.00
4.	4	CY	Hughes F Site 2	0.00	.50	2.00	100.00	400.00	50.00	200.00
14.	1250	SY	Provide and Place Erosion Control mat - Stockwater	0.00	2.21	2,762.50	2.00	2,500.00	2.50	3,125.00
735	735	SY	Hughes F Site 1	0.00	2.21	1,624.35	2.00	1,470.00	2.50	1,837.50
25	25	SY	Hughes F Site 2	0.00	2.21	55.25	20.00	50.00	10.00	250.00
15.	15.70	Acre	Fertilize, seed and mulch Lehigh	0.00	750.00	11,775.00	500.00	7,650.00	800.00	12,560.00
4.60	4.60	Acre	Stockwater Dam	0.00	750.00	3,450.00	500.00	2,100.00	800.00	3,680.00
0.57	0.57	Acre	Hughes F Site 1	0.00	750.00	427.50	500.00	235.00	3,000.00	1,710.00
0.01	0.01	Acre	Hughes F Site 2	0.00	750.00	7.50	500.00	50.00	25,000.00	250.00
16.	195	EA	Scrub Bait Dike for Erosion Control at Lehigh	0.00	10.00	1,950.00	10.00	1,950.00	10.00	1,950.00
17.	1	EA	MPDES Permit	0.00	800.00	800.00	800.00	800.00	800.00	800.00
Total				0.00	0.00	526,963.60			643,000.00	893,750.00

BID TABULATIONS				ENGINEER'S ESTIMATE			D. H. BLATTNER & SONS	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price			
1.	1	Lump	Mobilization, Lehigh Site and Stock-water dam site	0.00	110,000.00	110,000.00	0.00	0.00
	1	Lump	Hughes F. Sites 1 and 2	0.00	0	0.00	0.00	0.00
2.	25	KGAL	Provide Water	0.00	160.00	4,000.00	0.00	0.00
3.	4000	C.Y.	Remove, stockpile and replace cover soil, Lehigh Site	0.00	1.50	6,000.00	0.00	0.00
	410	C.Y.	Stockwater Dam Site	0.00	2.50	1,025.00	0.00	0.00
4.	4000	C.Y.	Neutralize cover soil with CaCO ₃ at Lehigh	0.00	1.50	6,000.00	0.00	0.00
5.	3750	Tons	Load, haul lime kiln dust to Lehigh and unload dust	0.00	22.00	82,500.00	0.00	0.00
6.	91,000	CY	Excavate coal waste, neutralize with lime kiln dust and replace at Lehigh	0.00	11.50	1,046,500.00	0.00	0.00
7.	1,500	CY	Borrow and place 6" cover soil at Lehigh	0.00	1.70	2,550.00	0.00	0.00
8.	3,350	CY	Excavate/garners/neutralize with CaCO ₃ /place waste material from stockwater dam and channel	0.00	4.75	15,912.50	0.00	0.00
9.	1.29	Acre	Neutralize cover soil underlying excavated waste material at Stockwater Dam site	0.00	1,800.00	2,322.00	0.00	0.00
10.	0.160	Acre	Neutralize coal waste 20 tons CaCO ₃ /acre - Hughes F Site 1	0.00	1800.00	243.00	0.00	0.00
	0.005	Acre	Hughes F Site 2	0.00	1800.00	9.00	0.00	0.00
11.	2,900	CY	Remove/replaced/concrete existing dam material	0.00	2.30	6,670.00	0.00	0.00
12.	1,040	C.Y.	Repair Stockwater Dam/excavate spillway	0.00	2.80	2,912.00	0.00	0.00
13.	125	CY	Provide and place cover soil - Hughes F Site 1	0.00	5.00	625.00	0.00	0.00
	4	CY	Hughes F Site 2	0.00	5.00	20.00	0.00	0.00
14.	1250	SY	Provide and Place Erosion Control mat - Stockwater	0.00	2.10	2,625.00	0.00	0.00
	735	SY	Hughes F Site 1	0.00	2.10	1,543.50	0.00	0.00
	25	SY	Hughes F Site 2	0.00	2.10	52.50	0.00	0.00
15.	15.70	Acre	Fertilize, seed and mulch - Lehigh	0.00	1400.00	21,980.00	0.00	0.00
	4.60	Acre	Stockwater Dam	0.00	1400.00	6,440.00	0.00	0.00
	0.57	Acre	Hughes F Site 1	0.00	1400.00	793.00	0.00	0.00
	0.01	Acre	Hughes F Site 2	0.00	2000.00	20.00	0.00	0.00
16.	195	EA	Screw Bulk Dike for Erosion Control at Lehigh	0.00	12.00	2,340.00	0.00	0.00
17.	1	EA	MPDES Permit	0.00	800.00	80.00	0.00	0.00
			Total	0.00	0.00	1,323,932.50	0.00	n/a

Item No.	Estimated Quantity	Unit	Description	Unit Price	Total Price
1.	1	LUMP SUM	MOBILIZATION LEHIGH SITE AND STOCK- WATER DAM SITE	<u>XXXX</u>	\$ 50,000.00
	1	LUMP SUM	HUGHES F SITES 1 AND 2	<u>XXXX</u>	\$ 5,000.00
2.	25	KGAL	PROVIDE WATER	<u>50.00</u>	\$ 1,250.00
3.			REMOVE, STOCKPILE AND REPLACE COVER SOIL LEHIGH SITE STOCKWATER DAM SITE	<u>3.00</u> <u>3.00</u>	\$ 12,000.00 \$ 1,230.00
4.	4,000	CY	NEUTRALIZE COVER SOIL WITH CaCO ₃ AT LEHIGH AT 20 TONS/ACRE/6" SLICE	<u>5.00</u>	\$ 20,000.00
5.	3,750	TONS	LOAD, HAUL THE LIME KILN DUST TO LEHIGH AND UNLOAD THE KILN DUST	<u>20.00</u>	\$ 75,000.00
6.	91,000	CY	EXCAVATE COAL WASTE, NEUTRALIZE WITH LIME KILN DUST, AND REPLACE AT LEHIGH AT 300 TONS LIME KILN DUST/1,000 TONS OF COAL WASTE	<u>4.00</u>	\$ 364,000.00
7.	1,500	CY	BORROW AND PLACE 6" COVER SOIL AT LEHIGH	<u>4.00</u>	\$ 6,000.00
8.	3,350	CY	EXCAVATE/TRANSPORT/ NEUTRALIZE WITH CaCO ₃ (20 TONS/ACRE 6" SLICE)/ PLACE WASTE MATERIAL FROM STOCKWATER DAM AND CHANNEL	<u>10.00</u>	\$ 33,500.00
9.	1.29	ACRE	NEUTRALIZE COVER SOIL UNDERLYING EXCAVATED WASTE MATERIAL AT STOCKWATER DAM SITE AT 20 TONS CaCO ₃ /ACRE/6" SLICE	<u>2,000.00</u>	\$ 2,580.00

SECTION II

2.1 PROPOSAL (cont.)

Item No.	Estimated Quantity	Unit	Description	Unit Price	Total Price
10.			NEUTRALIZE COAL WASTE 20 TONS CaCO ₃ /ACRE/6" SLICE		
	0.160	ACRE	HUGHES F SITE 1	<u>5,000.00</u>	\$ 800.00
	<u>0.005</u>	ACRE	HUGHES F SITE 2	<u>40,000.00</u>	\$ 200.00
	0.165	ACRE			
11.	2,900	CY	REMOVE/REPLACE/COMPACT EXISTING DAM MATERIAL	<u>3.50</u>	\$ 10,150.00
12.	1,040	CY	REPAIR STOCKWATER DAM/ EXCAVATE SPILLWAY	<u>3.50</u>	\$ 3 640.00
13.			PROVIDE AND PLACE COVER SOIL		
	125	CY	HUGHES F SITE 1	<u>10.00</u>	\$ 1,250.00
	<u>4</u>	CY	HUGHES F SITE 2	<u>25.00</u>	\$ 100.00
	129	CY			
14.			PROVIDE AND PLACE EROSION CONTROL MAT		
	1,250	SY	STOCKWATER DAM SITE	<u>3.00</u>	\$ 3 750.00
	735	SY	HUGHES F SITE 1	<u>3.00</u>	\$ 2,205.00
	<u>25</u>	SY	HUGHES F SITE 2	<u>6.00</u>	\$ 150.00
	2,010	SY			
15.			FERTILIZE, SEED AND MULCH		
	15.70	ACRE	LEHIGH	<u>1,500.00</u>	\$ 23,550.00
	4.60	ACRE	STOCKWATER DAM	<u>1,800.00</u>	\$ 8,280.00
	0.57	ACRE	HUGHES F SITE 1	<u>3,000.00</u>	\$ 1 710.00
	<u>0.01</u>	ACRE	HUGHES F SITE 2	<u>30,000.00</u>	\$ 300.00
	20.88	ACRE			
16.	195	EACH	STRAW BALE DIKE FOR EROSION CONTROL AT LEHIGH	<u>15.00</u>	\$ 2 925.00
TOTAL:				\$	629,570.00

Six Hundred Twenty Nine Thousand, Five Hundred and Seventy Dollars
(Price in Words)

ATTACHMENT 2

CHANGE ORDERS

RECEIVED
JUL 26 1995
DEQ

CHANGE ORDER

ORDER NO. 1

PROJECT TITLE: Lehigh Project

MONT A/E or DSL-AMRB: 94-002

CONTRACT DATE: May 18, 1995

OWNER: Department of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: M K Weeden Construction Inc.

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MATL S	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
3	Actual coversoil stockpiled at Lehigh was 7,159 cu yds or 3,159 CY more than estimate at a cost of \$5,528.25 (3159 CY x \$1.75/CY).					5,528.25	5,528.25
8	Actual waste from the stock dam was 3,761 cu yds or 411 CY more than estimate at a cost of \$645.27 (411 CY x \$1.57/yd)					645.27	645.27
11	Less dirt moved to remove & compact dam. Total of 1,592 CY plus 652 CY for keyway was moved or 656 CY less at a cost of - \$1,180.80 (656 CY x \$1.80/yd)					(1,180.80)	(1,180.80)
12	Actual dirt moved to repair stock dam was 1,358 CY or 318 CY more than estimate at a cost of \$318 (318 CY x \$1/CY)					318.00	318.00
13	Provide and place cover soil for Hughes F was deleted. Existing site material was used for a cost reduction of -\$42.					(42.00)	(42.00)
14	Quantities of erosion mat at the Hughes F sites were 720 sq yds at site 1 and 60 at site 2 for a net increase of 20 sq yds at a cost of \$44.20 (20 sq yds x \$2.21/sq yd).					44.20	44.20
15	The actual area fertilized, seeded and mulched at Hughes F site 1 was 0.28 acres or 0.29 acres less than estimated for a cost of (\$217.50) (0.29 ac x \$750/acre).					(217.50)	(217.50)
Extra	Excavate extra pit to accommodate kiln dust being hauled directly from the silos (different purity) at a cost of \$681.95 (1.15/cy x 593 cy)					681.95	681.95
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.						5,777.37	
OVERHEAD & PROFIT @ ____ %							INC.
GRAND TOTAL - THIS CHANGE ORDER						\$5,777.37	

Original Contract Price	\$ 526,968.60
Current Contract Price Adjusted by Previous Change Order	\$ 526,968.60
Cost this Change Order (+ or -)	\$ 5,777.37
New Contract Price including this Change Order	\$ 532,745.97

The completion date as set forth in the Contract Documents shall be unchanged, increased, decreased) by 0 calendar days excluding weather days already allowed.

The date for completion of all work will be 9/25/1995 plus weather days.

Description of Change:

This change order makes the final quantity adjustments for completed pay items and adds the cost of excavating an extra pit to accommodate the lime kiln dust being hauled directly from the silos at Continental Lime (higher quality) to avoid mixing with the lower quality material on-site.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$ 5,777.37 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$ 5,777.37 (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

FLYNN INSURANCE AGENCY

Gordon D. McManus
Gordon D. McManus

FIRST NATIONAL INSURANCE COMPANY OF AMERICA

By: Lisa W. Anderson
Seal Lisa W. Anderson

Recommended by: M K Weeden Construction
Contractor

Mato Weeden 7/22/95
Date

Accepted by: Spectrum Engineering
Engineer

William C. Maehl 7/20/95
Date

Approved by: Joe R. Enders
Owner

7-31-95
Date

CHANGE ORDER BACKUP

LEHIGH KILN DUST		
FROM CONTINENTAL LIME		
INVOICE #	SHIP DATE	TONS
46465	6/11/95	24.96
46466	6/12/95	24.74
46467	6/13/95	25.03
46468	6/15/95	37.30
46469	6/17/95	37.11
46470	6/19/95	36.64
46471	6/19/95	37.60
46472	6/20/95	36.60
46473	6/21/95	37.45
46474	6/22/95	36.84
46475	6/24/95	40.07
46476	6/24/95	39.59
46477	6/26/95	41.45
46478	6/26/95	39.58
46479	6/27/95	39.54
46480	6/27/95	34.91
46481	6/29/95	24.83
46482	7/05/95	43.94
46483	7/08/95	41.14
46484	7/09/95	36.52
46485	7/10/95	38.03
46486	7/11/95	36.30
46487	7/14/95	45.13
TONS TO DATE		835.30

MK WEEDEN CONSTRUCTION

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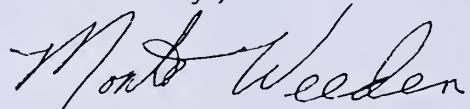
July 3, 1995

Hank Lowe
Spectrum Engineering
1413 4th Ave. N.
Billings, MT 59101

Dear Mr. Lowe:

This letter is a confirmation that I will dig the extra storage trench on the Lehigh Project for \$1.15/cu. yd. The approximate size of this trench will be 100 ft. long, 12 ft. wide and 8 ft. deep.

Sincerely,


Monte Weeden

Monte Weeden

MKW/kw

RECEIVED

AUG 31 1995

CHANGE ORDER

ORDER NO. 2

DEQ

PROJECT TITLE: Lehigh Project

MONT AVE or DSL-AMRB: 94-002

CONTRACT DATE: May 18, 1995

OWNER: Department of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: M K Weeden Construction Inc.

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MATL 3	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
Extra #1	To prevent contamination, it was negotiated that Contractor provide an excavator & screen at Continental's pit to provide a cleaner kiln dust product. Total cost for mobilization (\$1,300) & use of equipment (\$8,700) is \$10,000.					10,000.00	10,000.00
Extra #2	By decreasing the quantity of coal to be limed by 25% or greater, the slack pile & pug mill had to be double handled or moved. This cost is \$15,000 (30000 CY x \$0.50/CY). This cost also includes all extra costs associated with the very wet conditions, material differences & other work conditions.					15,000.00	15,000.00
Extra #3	The liming rate was changed due quality variation from Continental Lime. The increased price was calculated by: extra tons over 300 divided by 1300 (1000T coal+300T of lime) multiplied by bid price of \$3.97/CY (340 ton lime rate is 40/1300 x \$3.97 or \$0.122/CY more than bid price. The attached sheet gives the cost backup (7/26-8/25/95).					4,322.25	4,322.25
Extra #4	Contractor was requested to backfill the lime storage pits & revegetate the area upon completion. Negotiated rate equal to rate paid to make initial pits or \$1.00/CY to replace cover soil (7,720 CY) & \$2.80/CY to replace excavated material (15,250 CY) for a total of \$50,420 plus the increased acreage to revegetate which will be done at the bid rate for Seed, Fertilize & Mulch.					50,420.00	50,420.00
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							79,742.25
OVERHEAD & PROFIT @ %							INC.
GRAND TOTAL - THIS CHANGE ORDER							\$79,742.25

Original Contract Price	\$ 526,968.60
Current Contract Price Adjusted by Previous Change Order	\$ 532,745.97
Cost this Change Order (+ or -)	\$ 79,742.25
New Contract Price including this Change Order	\$ 612,488.22

CO - 1
8/31/95

The completion date as set forth in the Contract Documents shall be (unchanged, increased, decreased) by 0 calendar days excluding weather days already allowed. The date for completion of all work will be 9/25/1995 plus weather days plus the extra time to fill in the lime storage pits.

Description of Change:

This change order takes into account changes in the project due to variations in the lime analysis rate, changes in the kiln dust product requested, and changes in the final site conditions requested (pits reclaimed).

Item 1 - In order to salvage as much lime kiln dust as possible from the Continental Lime pit in Townsend and to prevent further contamination and hauling large chunks to the project site, the Owner and Engineer have requested that the Contractor provide a excavator and screening apparatus at the pit. The cost to provide this service is a fixed price of \$10,000 for mobilization and operation of said equipment.

Item 2 - Due to the decreased quantity of coal slack to be limed (- 25%), this has caused the placement of the coal slack pile and pug mill to change from the original placement. This cost the contractor by forcing him to double handle the existing stockpiled coal. This cost is \$15,000 (30,000 cubic yards x \$0.50/cubic yard).

Item 3 - Due to a problem with the initial characterization of the lime kiln dust, the liming rate had to be increased. The initial bid quantity called for 300 tons of lime kiln dust per 1000 tons of coal waste. This has had to be increased by a varying amount of 320 to 340 tons/1000 tons. This increase will be paid for by the percentage increase times the unit price bid (for example: 40 extra tons / 300 tons + 1000 tons equals a 3% overall quantity increase. This is then taken times the bid price of \$3.97/CY giving a net increase of \$0.12/CY).

Item 4 - The Owner and Engineer have requested that the Contractor backfill the lime storage pits and revegetate the entire area upon completion of his work. This rate was negotiated and equalled the rate paid to make the initial pits or \$1.00/cubic yard to replace the cover soil and \$2.80/cubic yard to replace the excavated material.

In negotiating the above contract changes, the Contractor agrees that there are no outstanding claims or requests for varying site conditions due to rain, material characteristics, requests to the the material quantity decreasing by 25% or greater, etc. from the start of the project to the date of this contract change.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$79,742.25 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$79,742.25 (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

FLYNN INSURANCE AGENCY

FIRST NATIONAL INSURANCE COMPANY OF AMERICA

Gordon D. McManus
GORDON D. MC MANUS

By: Lisa W. Anderson
Seal LISA W. ANDERSON

Recommended by: M K Weeden Construction
Contractor

Mate Weeden 8/27/95
Date

Accepted by: Spectrum Engineering

Engineer

William C. Maehl 8/26/95

Date

Approved by: Ver R. Anderson
Owner

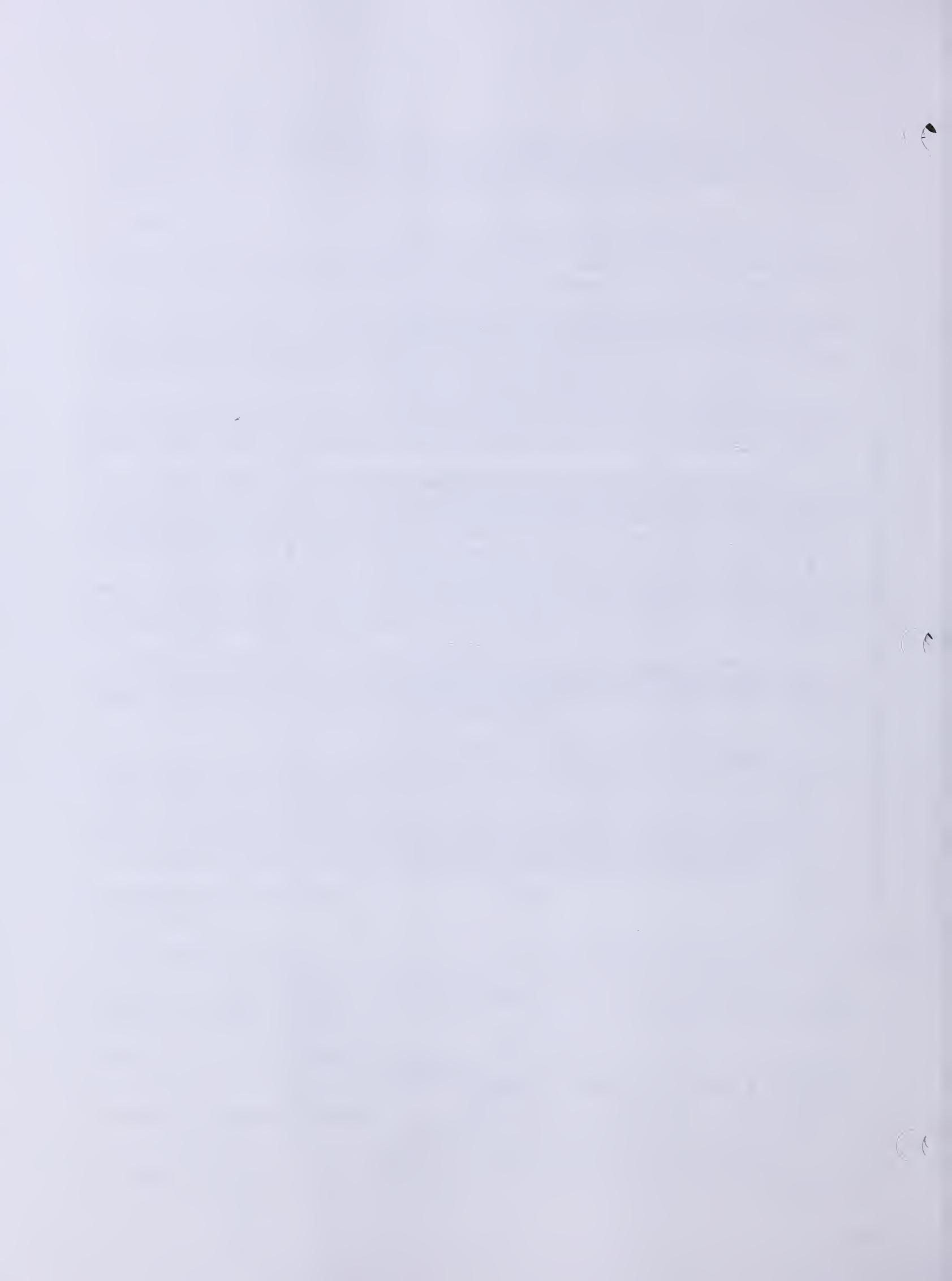
8/31/95
Date

LEHIGH PROJECT ACTUAL COAL LIMING SUMMARY SHEET

lime application date	lime rate (tons lime per 1000 tons coal)	extra lime mixing cost (cy)	field data daily total flow (tons lime + tons coal)	daily lime used (tons)	cumulative lime used (tons)	daily coal/treated (tons)	cumulative coal/treated (tons)	daily coal/treated (cy)	cumulative coal/treated (cy)	daily extra lime mixing cost	cumulative extra lime mixing cost
26-jul	320	0.06	1,741.70	422.2	1,319.47	1,534.27	1,534.27	1,534.27	1,534.27	\$ 93.71	\$ 93.71
27-jul	340	0.12	1,550.00	393.3	844.46	1,156.72	2,476.19	1,345.02	2,879.29	\$ 164.30	\$ 258.01
28-jul	340	0.12	1,446.20	366.9	1,237.74	1,079.25	3,555.44	1,254.95	4,134.23	\$ 153.30	\$ 411.30
31-jul	350	0.15	1,941.50	503.4	1,604.69	1,438.15	4,993.59	1,672.27	5,806.50	\$ 255.34	\$ 666.65
1-aug	350	0.15	2,012.60	521.8	2,108.04	1,490.81	6,484.40	1,733.51	7,540.00	\$ 264.69	\$ 931.34
2-aug	350	0.15	300.00	77.8	2,629.83	222.22	6,706.63	258.40	7,798.40	\$ 39.46	\$ 970.79
2-aug	340	0.12	2,003.00	508.2	2,707.61	1,494.78	8,201.40	1,738.11	9,536.51	\$ 212.32	\$ 1,183.11
3-aug	340	0.12	1,721.30	436.7	3,215.83	1,284.55	9,485.95	1,493.67	11,030.18	\$ 182.46	\$ 1,365.57
4-aug	340	0.12	2,044.50	518.8	3,652.58	1,525.75	11,011.70	1,774.12	12,804.30	\$ 216.72	\$ 1,582.28
7-aug	340	0.12	1,774.00	450.1	4,171.33	1,323.88	12,335.58	1,539.40	14,343.70	\$ 188.04	\$ 1,770.33
8-aug	340	0.12	1,984.20	503.5	4,621.45	1,480.75	13,816.33	1,721.80	16,065.50	\$ 210.32	\$ 1,980.65
9-aug	340	0.12	1,438.90	365.1	5,124.90	1,073.81	14,890.13	1,248.61	17,314.11	\$ 152.52	\$ 2,133.17
10-aug	340	0.12	2,311.20	586.4	5,490.00	1,724.78	16,614.91	2,005.55	19,319.66	\$ 244.99	\$ 2,378.16
11-aug	335	0.11	757.00	190.0	6,076.42	567.04	17,181.95	659.35	19,979.01	\$ 70.47	\$ 2,448.64
11-aug	338	0.12	865.90	218.7	6,266.38	647.16	17,829.11	752.51	20,731.52	\$ 87.33	\$ 2,535.96
14-aug	335	0.11	2,265.50	568.5	6,485.12	1,697.00	19,526.11	1,973.26	22,704.78	\$ 210.91	\$ 2,746.87
15-aug	335	0.11	404.10	101.4	7,053.62	302.70	19,828.81	351.97	23,056.76	\$ 37.62	\$ 2,784.49
16-aug	338	0.12	1,250.00	315.8	7,155.02	934.23	20,763.04	1,086.31	24,143.07	\$ 126.06	\$ 2,910.56
16-aug	335	0.11	1,147.50	287.9	7,470.79	859.55	21,622.59	999.48	25,142.55	\$ 106.83	\$ 3,017.38
17-aug	338	0.12	2,190.10	553.3	7,758.74	1,636.85	23,259.44	1,903.31	27,045.86	\$ 220.87	\$ 3,238.26
18-aug	338	0.12	1,748.10	441.6	8,311.90	1,306.50	24,565.94	1,519.19	28,565.05	\$ 176.30	\$ 3,414.55
21-aug	338	0.12	2,119.10	535.3	8,753.59	1,583.78	26,149.72	1,841.61	30,406.65	\$ 213.71	\$ 3,628.26
22-aug	338	0.12	2,283.00	576.7	9,288.91	1,706.28	27,856.00	1,984.04	32,390.70	\$ 230.24	\$ 3,858.50
23-aug	338	0.12	1,400.00	353.7	9,865.63	1,046.34	28,902.34	1,216.67	33,607.37	\$ 141.19	\$ 3,999.69
23-aug	340	0.12	1,218.70	309.2	10,219.29	909.48	29,811.81	1,057.53	34,664.90	\$ 129.18	\$ 4,128.88
24-aug	340	0.12	1,750.00	444.0	10,528.52	1,305.97	31,117.78	1,518.57	36,183.47	\$ 185.50	\$ 4,314.37
25-aug	340	0.12	74.30	18.9	10,972.55	55.45	31,173.23	64.47	36,247.94	\$ 7.88	\$ 4,322.25

footnotes

1. Density of coal as per MSU = 1720 lb/cy
2. Moisture content is by volume
3. Extra lime cost based on Item 3 from the Statement of Understanding between Spectrum Engineering and Weeden Construction dated August 8, 1995



CHANGE ORDER

ORDER NO. 3

PROJECT TITLE: Lehigh Project

DSL-AMRB: 94-002

CONTRACT DATE: May 18, 1995

OWNER: Department of Environmental Quality, Abandoned Mine Reclamation Bureau

CONTRACTOR: M K Weeden Construction Inc.

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MATL S	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
Extra #1 from Chg Ordr #2	To prevent contamination, it was negotiated that Contractor provide an excavator & screen at Continental's pit to provide a cleaner kiln dust product. Total cost for mobilization (\$1,300) & use of equipment (\$8,700) was \$10,000. This was only partially completed at a cost of \$2,440 leaving \$7,560 unused.					-7,560.00	-7,560.00
Extra #2	Contractor was requested to change the CaCO ₃ liming rate on the cover soil from 20 tons/acre to 60 tons/acre after receipt of Energy Lab soil results. Contractor had bid \$57.61/ton for liming bid items 4, 8 & 9 (engineer calculated from bid). An additional cost of approximately 5% to cover increased bonding and insurance costs brings the total to \$62/ton for purchase, delivery, and application of the extra lime required (219 tons original bid and 650.1 tons actually applied for an increase of 431.1 tons (see detailed backup sheet)). Cost increase of 431.1 tons x \$62/ton = \$26,728.20					26,728.20	26,728.20
Extra #3 from Chg Ordr #2	The liming rate was changed due quality variation from Continental Lime. The increased price was calculated by: extra tons over 300 divided by 1300 (1000T coal+300T of lime) multiplied by bid price of \$3.97/CY (340 ton lime rate is 40/1300 x \$3.97 or \$0.122/CY more than bid price. The attached sheet gives the cost backup for the period from 8/28-9/8/95 for pay request #3.					2,173.83	2,173.83
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							21,342.03
OVERHEAD & PROFIT @ <u> </u> %							INC.
GRAND TOTAL - THIS CHANGE ORDER							\$21,342.03

Original Contract Price	\$ 526,968.60
Current Contract Price Adjusted by Previous Change Order	\$ 612,488.22
Cost this Change Order (+ or -)	+ \$ 21,342.03
New Contract Price including this Change Order	\$ 633,830.25

The completion date as set forth in the Contract Documents shall be (unchanged, increased, decreased) by 0 calendar days. The date for completion of all work was 9/30/1995 except for fall seeding after October 15th.

Description of Change:

This change order takes into account changes in the project due to variations in the lime analysis rate, and changes in the kiln dust product requested.

Item 1 - In order to salvage as much lime kiln dust as possible from the Continental Lime pit in Townsend and to prevent further contamination and hauling large chunks to the project site, the Owner and Engineer have requested that the Contractor provide a excavator and screening apparatus at the pit. The cost to provide this service is a fixed price of \$10,000 for mobilization and operation of said equipment. This task was partially completed and the lack of lime hauling trucks prevented further usage. Only \$2,440 of the \$10,000 was allowed.

Item 2 - The CaCO₃ liming rate on the cover soil was changed from 20 tons/acre to 60 tons/acre after receipt of the Energy Lab soil results. The Contractor had bid \$57.61/ton for liming bid items 4, 8 & 9 (engineer calculated from bid). An additional cost of approximately 5% to cover increased bonding and insurance costs brings the total to \$62/ton for purchase, delivery, and application of the extra lime required (219 tons original bid and 650.1 tons actually applied for an increase of 431.1 tons (see detailed backup sheet)).

Item 3 - Due to a problem with the initial characterization of the lime kiln dust, the liming rate had to be increased. The initial bid quantity called for 300 tons of lime kiln dust per 1000 tons of coal waste. This has had to be increased by a varying amount of 320 to 340 tons/1000 tons. This increase will be paid for by the percentage increase times the unit price bid (for example: 40 extra tons / 300 tons + 1000 tons equals a 3% overall quantity increase. This is then taken times the bid price of \$3.97/CY giving a net increase of \$0.12/CY.

In negotiating the above contract changes, the Contractor agrees that there are no outstanding claims or requests for varying site conditions due to rain, material characteristics, requests due to the material quantity decreasing by 25% or greater, etc. from the start of the project to the date of this contract change.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$ 21,342.03 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$ 21,342.03 (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

FLYNN INSURANCE AGENCY

FIRST NATIONAL INSURANCE COMPANY OF AMERICA

Gordon D. McManus
GORDON D. MC MANUS

By: TONI L. Phelps
Seal TONI L. PHELPS

Recommended by: M K Weeden Construction
Contractor

Monte Weeden 18-10-95
Date

Accepted by: Spectrum Engineering
Engineer

William C. Maier 10/6/95
Date

Approved by: Uir R. Anderson
Owner

10/13/95
Date

LEHIGH PROJECT ACTUAL COAL LIMING SUMMARY SHEET

lime application date	lime rate (tons lime per 1000 tons coal)	extra lime mixing cost (cy)	field data (tons lime + tons coal)	daily lime total (tons)	daily lime used (tons)	cumulative lime used (tons)	daily coal treated (tons)	cumulative coal treated (tons)	daily coal treated (cy)	cumulative coal treated (cy)	extra lime mixing cost	cumulative extra lime mixing cost
26-jul	320	0.06	1,741.70	422.2	422.23	1,319.47	1,319.47	1,534.27	1,534.27	\$ 93.71	\$ 93.71	
27-jul	340	0.12	1,550.00	393.3	844.46	1,156.72	2,476.19	1,345.02	2,879.29	\$ 164.30	\$ 258.01	
28-jul	340	0.12	1,446.20	366.9	1,237.74	1,079.25	3,555.44	1,254.95	4,134.23	\$ 153.30	\$ 411.30	
31-jul	350	0.15	1,941.50	503.4	1,604.69	1,438.15	4,993.59	1,672.27	5,806.50	\$ 256.34	\$ 666.65	
1-aug	350	0.15	2,012.60	521.8	2,108.04	1,490.81	6,484.40	1,723.51	7,540.00	\$ 264.69	\$ 931.34	
2-aug	350	0.15	300.00	77.8	2,629.83	222.22	6,706.63	258.40	7,798.40	\$ 39.46	\$ 970.79	
2-aug	340	0.12	2,003.00	508.2	2,707.61	1,494.78	8,201.40	1,738.11	9,536.51	\$ 212.32	\$ 1,183.11	
3-aug	340	0.12	1,721.30	436.7	3,215.83	1,284.55	9,485.95	1,493.67	11,030.18	\$ 182.46	\$ 1,365.57	
4-aug	340	0.12	2,044.50	518.8	3,652.58	1,525.75	11,011.70	1,774.12	12,804.30	\$ 216.72	\$ 1,582.28	
7-aug	340	0.12	1,771.00	450.1	4,171.33	1,323.88	12,335.58	1,539.40	14,343.70	\$ 188.04	\$ 1,770.33	
8-aug	340	0.12	1,984.20	503.5	4,621.45	1,480.75	13,816.33	1,721.80	16,065.50	\$ 210.32	\$ 1,980.65	
9-aug	340	0.12	1,438.90	365.1	5,124.90	1,073.81	14,890.13	1,248.61	17,314.11	\$ 152.52	\$ 2,133.17	
10-aug	340	0.12	2,311.20	586.4	5,490.00	1,724.78	16,614.91	2,005.55	19,319.66	\$ 244.99	\$ 2,378.16	
11-aug	335	0.11	757.00	190.0	6,076.42	567.04	17,181.95	659.35	19,979.01	\$ 70.47	\$ 2,448.64	
11-aug	338	0.12	865.90	218.7	6,266.38	647.16	17,829.11	752.51	20,731.52	\$ 87.33	\$ 2,535.96	
14-aug	335	0.11	2,265.50	568.5	6,485.12	1,697.00	19,526.11	1,973.26	22,704.78	\$ 210.91	\$ 2,746.87	
15-aug	335	0.11	404.10	101.4	7,053.62	302.70	19,828.81	351.97	23,056.76	\$ 37.62	\$ 2,784.49	
16-aug	338	0.12	1,250.00	315.8	7,155.02	934.23	20,763.04	1,086.31	24,143.07	\$ 126.06	\$ 2,910.56	
16-aug	335	0.11	1,147.50	287.9	7,470.79	859.55	21,622.59	989.48	25,142.55	\$ 106.83	\$ 3,017.38	
17-aug	338	0.12	2,190.10	553.3	7,758.74	1,636.85	23,259.44	1,903.31	27,045.86	\$ 220.87	\$ 3,238.26	
18-aug	338	0.12	1,748.10	441.6	8,311.99	1,306.50	24,565.94	1,519.19	28,565.05	\$ 176.30	\$ 3,414.55	
21-aug	338	0.12	2,119.10	535.3	8,753.59	1,583.78	26,149.72	1,841.61	30,406.65	\$ 213.71	\$ 3,628.26	
22-aug	338	0.12	2,283.00	576.7	9,288.91	1,706.28	27,856.00	1,984.04	32,390.70	\$ 230.24	\$ 3,858.50	
23-aug	338	0.12	1,400.00	353.7	9,865.63	1,046.34	28,902.34	1,216.67	33,607.37	\$ 141.19	\$ 3,989.69	
23-aug	340	0.12	1,218.70	309.2	10,219.29	909.48	29,811.81	1,057.53	34,664.90	\$ 129.18	\$ 4,128.88	
24-aug	340	0.12	1,750.00	444.0	10,528.52	1,305.97	31,117.78	1,518.57	36,183.47	\$ 185.50	\$ 4,314.37	
25-aug	340	0.12	74.30	18.9	10,972.55	55.45	31,173.23	64.47	36,247.94	\$ 7.88	\$ 4,322.25	
SUBTOTAL PAY REQUEST #2												\$ 36,247.94
TOTAL COAL LIMING COSTS												\$ 4,322.25
SUBTOTAL PAY REQUEST #3												\$ 18,068.57
TOTAL COAL LIMING COSTS												\$ 54,316.52
TOTAL PAY REQUEST #2												\$ 16,712.20
TOTAL PAY REQUEST #3												\$ 46,712.20
FOOTNOTES												
1. Density of coal as per MSU = 1720 lb/cy												
2. Moisture content is by volume												
3. Extra lime cost based on Item 3 from the Statement of Understanding between Spectrum Engineering and Weeden Construction dated August 8, 1995												

footnotes

1. Density of coal as per MSU = 1720 lb/cy

2. Moisture content is by volume

3. Extra lime cost based on Item 3 from the Statement of Understanding between Spectrum Engineering and Weeden Construction dated August 8, 1995

CALCIUM CARBONATE DELIVERED FROM MONTANA LIMESTONE COMPANY FOR BID ITEMS 4, 8, AND 9			
INVOICE	SHIP DATE	TONS	TOTAL TONS
8051	9/14/95	35.85	
8052	9/14/95	35.03	
8059	9/19/95	36.00	
8060	9/19/95	36.05	
8061	9/20/95	36.20	
8063	9/21/95	36.13	
8064	9/22/95	36.33	
8065	9/25/95	36.08	
8066	9/25/95	36.08	
8068	9/26/95	36.08	
8070	9/26/95	36.63	
8071	9/27/95	36.18	
8072	9/27/95	36.63	
8073	9/28/95	36.13	
8074	9/28/95	34.30	
8076	9/29/95	37.05	
8077	9/29/95	36.15	
8078	9/29/95	36.20	
BULK TONS OF CaCO ₃ DELIVERED			650.10
BULK TONS REQ.-BID ITEM #4			105.00
BULK TONS REQ.-BID ITEM #8			87.00
BULK TONS REQ.-BID ITEM #9			27.00
BULK TONS REQUIRED PER BID PKG			219.00
EXTRA TONS REQUIRED FOR THIS PROJECT PER ENERGY LAB RESULTS			431.10

CHANGE ORDER

ORDER NO. 4- Final

PROJECT TITLE: Lehigh Project

DSL-AMRB: 94-002

CONTRACT DATE: May 18, 1995

OWNER: Department of Environmental Quality, Abandoned Mine Reclamation Bureau

CONTRACTOR: M K Weeden Construction Inc.

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'L'S	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
2	Actual water used for dust suppression was 106.85 Kgal or 81.85 Kgal more than the contract quantity for an increase of \$4,469.01 (81.85 Kgal x \$54.60/Kgal)					4,469.01	4,469.01
3	Total cover soil removed & replaced was 9,025 CY or 5,025 more than contract quantity. Change Order 1 added 3,159 CY at a cost of \$5,528.25. This change order adds 1,866 CY at \$1.75/CY for a total of \$3,265.50.					3,265.50	3,265.50
5	A total of 2,380.71 tons of lime were hauled or 1,369.29 less than the contract quantity for a decrease of \$25,386.64 (1,369.29 T x \$18.54/T).					-25,386.64	-25,386.64
6	A total of 54,316.52 CY of coal was processed or 36,683.48 less than the contract quantity for a decrease of \$145,633.42 (36683.48 T x \$3.97/T).					-145,633.42	-145,633.42
7	No additional cover soil was used resulting in a deletion of \$1,950 (total cost bid for item 7).					-1,950.00	-1,950.00
9	Neutralize coversoil under stockdam was 0.32 acres or 0.97 less than contract quantity for a decrease of \$1,235.68 (0.97 ac x \$1,273.90/ac).					-1,235.68	-1,235.68
15a	Fertilize, seed and mulch acreage increased from 15.7 acres to 19.61 acres at the Lehigh site for an increase of \$2,932.50 (3.91 ac x \$750/ac).					2,932.50	2,932.50
15b	Fertilize, seed and mulch acreage decreased from 4.60 acres to 1.11 acres at the dam site for a decrease of \$2,617.50 (3.49 ac x \$750/ac).					-2,617.50	-2,617.50
17	The MPDES permit was \$650 or a net decrease of \$150 from the estimated contract price.					-150.00	-150.00
Extra	Extra CaCO ₃ on the cover soil. Cost increase of 72.15 tons x \$62/ton = \$4,473.30					4,473.30	4,473.30
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							-\$161,832.93
OVERHEAD & PROFIT @ <u> </u> %							INC.
GRAND TOTAL - THIS CHANGE ORDER							-\$161,832.93

Original Contract Price	\$ 526,968.60
Current Contract Price Adjusted by Previous Change Order	\$ 633,830.25
Cost this Change Order (+ or -)	- \$ 161,832.93
New Contract Price including this Change Order	\$ 471,997.32

The completion date as set forth in the Contract Documents shall be (unchanged, increased, decreased) by 0 calendar days. The date for completion of all work was 11/15/1995.

Description of Change:

This change order makes the final quantity adjustments to all of the bid items. The adjustments are explained on the front side under Description of Changes. Bid Items 2 (Provide Water); 3 (Remove and Replace Coversoil at Lehigh; 5 (Haul Kiln Dust to Lehigh); 6 (Excavate Coal Waste, Neutralize & Replace); 7 (Borrow and Place Coversoil at Lehigh); 9 (Neutralize Coversoil under Dam); 15 (Fertilize, Seed, & Mulch at Lehigh and at the Dam); and 17 (Actual cost of MPDES permit) were adjusted to actual final quantities.

Contractor was requested to change the CaCO₃ liming rate on the cover soil from 20 tons/acre to 60 tons/acre after receipt of Energy Lab soil results. Contractor had bid \$57.61/ton for liming bid items 4, 8 & 9 (engineer calculated from bid). An additional cost of approximately 5% to cover increased bonding and insurance costs brings the total to \$62/ton for purchase, delivery, and application of the extra lime required (219 tons original bid with 650.1 tons applied through change Order 3. Two more shipments were made which were accidentally left off of the last Change Order. These were invoice 8055 for 36.05 tons and 8057 for 36.10 tons for an additional amount of 72.15 tons x \$62/ton = \$4,473.30

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby ~~increased~~ ^{decreased} by \$ 161,832.93 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby ~~increased~~ ^{decreased} by \$ 161,832.93 (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

FLYNN INSURANCE AGENCY

FIRST NATIONAL INSURANCE COMPANY OF AMERICA

Gordon D McManus/MT
GORDON D. MC MANUS

By: Toni L. Shaver

Seal TONI L. SHAVER, ATTY-IN-FACT

Recommended by: M K Weeden Construction
Contractor

Monte Weeden 12/15/95
Date

Accepted by: Spectrum Engineering

William C. McEld 12/4/95

Engineer

Date

Approved by: Vic R. Adles
Owner

12/15/95
Date

LEHIGH PROJECT
MT DSL-AMRB No. 94-002

STATEMENT OF UNDERSTANDING
AUGUST 8TH, 1995

Item 1: In order to salvage as much lime kiln dust as possible from the Continental Lime pit in Townsend and to prevent further contamination and hauling large chunks to the project site, the Owner and Engineer have requested that the Contractor provide a excavator and screening apparatus at the pit. The cost to provide this service is a fixed price of \$10,000 for mobilization and operation of said equipment.

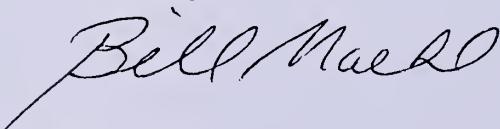
Item 2: Due to the decreased quantity of coal slack to be limed (- 25%), this has caused the placement of the coal slack pile and pug mill to change from the original placement. This cost the contractor by forcing him to double handle the existing stockpiled coal. This cost is \$15,000 (30,000 cubic yards x \$0.50/cubic yard).

Item 3: Due to a problem with the initial characterization of the lime kiln dust, the liming rate had to be increased. The initial bid quantity called for 300 tons of lime kiln dust per 1000 tons of coal waste. This has had to be increased by a varying amount of 320 to 340 tons/1000 tons. This increase will be paid for by the percentage increase times the unit price bid (for example: 40 extra tons / 300 tons + 1000 tons equals a 3% overall quantity increase. This is then taken times the bid price of \$3.97/cubic yard to give a net increase of \$0.12/cubic yard (\$3.97 + 3% x \$3.97).

Item 4: The Owner and Engineer have requested that the Contractor backfill the lime storage pits and revegetate the entire area upon completion of his work. This rate was negotiated and equalled the rate paid to make the initial pits or \$1.00/cubic yard to replace the cover soil and \$2.80/cubic yard to replace the excavated material.

In negotiating the above contract changes, the Contractor agrees that there are no outstanding claims or requests for varying site conditions due to rain, material characteristics, requests to the the material quantity decreasing by 25%, etc. from the start of the project to the date of this contract change (August 8th, 1995).

Sincerely



Bill Maehl
Engineer

6

7

8

ATTACHMENT 3

PAYMENT REQUESTS

PAYMENT REQUEST NO. 1

FROM 06/12/1995 TO 7/21/1995

PROJECT TITLE: LEHIGH PROJECT

LOCATION: JUDITH BASIN COUNTY MONT DSL-AMRB: 94-002

NAME OF CONTRACTOR: M K WEEDEN CONSTRUCTION INC.

ADDRESS: 941 W. ERIE, LEWISTOWN, MONTANA 59457

SUMMARY OF PROJECT STATUS

Amount of Original Contract	\$ <u>526,968.60</u>
Change Order No. <u>1</u>	\$ <u>5,777.37</u>
Change Order No. <u> </u>	\$ <u> </u>
Change Order No. <u> </u>	\$ <u> </u>
Amount of Approved Change Order(s)	\$ <u>5,777.37</u>
TOTAL CONTRACT AMOUNT	\$ <u>532,745.97</u>

Pay Request No.	Amount of Request
1	\$101,594.33

Total Contract Amount Completed to Date	\$ <u>112,882.59</u>
Less Retainage (<u>10</u> %)	\$ <u>11,288.26</u>
TOTAL AMOUNT EARNED TO DATE	\$ <u>101,594.33</u>
Less Previous Payments	\$ <u>0.00</u>
AMOUNT DUE THIS PAYMENT	\$ <u>101,594.33</u>
Less 1% Tax	\$ <u>1,015.94</u>
TOTAL DUE CONTRACTOR	\$ <u>100,578.39</u>

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

APPROVED BY:

M K WEEDEN CONSTRUCTION INC.
By Mato Weeden Contractor
Date 7/22/95

DEPARTMENT OF STATE LANDS,
ABANDONED MINE RECLAMATION BUREAU
Owner

RECOMMENDED BY:

SPECTRUM ENGINEERING INC.
By William C. Moell Engineer
Date 7/20/95

33507001 P
7-31-95
Rev. R Anderson
7-31-95

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1.	Mobilization-Lehigh	1 LS	42100.00		1	1	42,100.00	42,100.00
	Mobilization-Hughes F	1 LS	500.00		1	1	500.00	500.00
2.	Provide Water	25.0 Kgal	54.60		0	0	0.00	0.00
3.	Remove & replace coversoil-Lehigh	4000 CY	1.75		7,159 times ½	7,159 times ½	6,264.13	6,264.13
	Remove & replace coversoil-stock dam	410 CY	2.00		410 times ½	410 times ½	410.00	410.00
4.	Neutralize coversoil-Lehigh	4000 CY	1.48		0	0	0.00	0.00
5.	Haul kiln dust to Lehigh	3750 Tons	18.54		835.30	835.30	15,486.46	15,486.46
6.	Excavate coal waste, neutralize & replace	91000 CY	3.97		35,000 times ¼	35,000 times ¼	34,737.50	34,737.50
7.	Borrow & place coversoil-Lehigh	1500 CY	1.30		0	0.000	0.00	0.00
8.	Excavate, transport & neutralize stock dam waste material	3350 CY	1.57		3,761 times ½	3,761 times ½	2,952.38	2,952.38
9.	Neutralize coversoil under stock dam	1.29 Ac	1273.00		0	0	0.00	0.00
10.	Neutralize coal waste Hughes F site 1	0.16 Ac	2798.00		0.16	0.160	447.68	447.68
	Neutralize coal waste Hughes F site 2	0.005 Ac	2798.00		0.005	0.005	13.99	13.99
11.	Remove/replace & compact dam material and keyway core	2900 CY	1.80		2,244	2,244	4,039.20	4,039.20
12.	Repair stock dam & excavate spillway	1040 CY	1.00		1,358	1,358	1,358.00	1,358.00
13.	Provide & place cover soil-Hughes F site 1	125 CY	0.32		0	0	0.00	0.00
	Provide & place cover soil-Hughes F site 2	4 CY	0.50		0	0	0.00	0.00
14.	Provide & place erosion mat-stock dam	1250 SqYd	2.21		0	0	0.00	0.00
	Provide & place erosion mat-Hughes F site 1	735 Sq Yd	2.21		720	720	1,591.20	1,591.20
	Provide & place erosion mat-Hughes F site 2	25 Sq Yd	2.21		60	60	132.60	132.60

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
15.	Fert./seed/mulch-Lehigh	15.70 Ac	750.00		0	0	0.00	0.00
	Fert./seed/mulch-dam	4.60	750.00		0	0	0.00	0.00
	Fert./seed/mulch-Hughes F site 1	0.57	750.00		0.28	0.28	210.00	210.00
	Fert./seed/mulch-Hughes F site 2	0.01	750.00		0.01	0.01	7.50	7.50
16.	Straw bale dike	195 Each	10.00		1	1	1,950.00	1,950.00
	Change Order 1 - Extra Pit (other items accounted for in line items above)				1	1	681.95	681.95
	Materials on Site (Attach Schedule)	-	--	\$	\$	--	\$0.00	\$0.00
TOTALS							\$112,882.59	\$112,882.59

FOOTNOTE:

Item 3 Remove and Replace Coversoil: This item has two parts to it. The first half of this process (removal) has been completed.

Item 6 Excavate, Neutralize & Replace Coal Waste: This item includes excavating the coal waste, crushing it as necessary, mixing it with lime kiln dust, running it through a pug mill, and replacing it back into the pit. Through this pay request 35,000 cubic yards of coal waste has been excavated and stockpiled awaiting the next step. Excavation is equivalent to $\frac{1}{4}$ of the process, thus the quantity completed is 35,000 times $\frac{1}{4}$.

Item 16 Straw Bale Dike: Due to a scarcity of certified straw, the Contractor was allowed to substitute 800 feet of silt fence for the 195 straw bales with no change in the price.

PAYMENT REQUEST NO. 2

FROM 07/21/1995 TO 8/26/1995

PROJECT TITLE: LEHIGH PROJECT

LOCATION: JUDITH BASIN COUNTY MONT DSL-AMRB: 94-002

NAME OF CONTRACTOR: M K WEEDEN CONSTRUCTION INC.

ADDRESS: 941 W. ERIE, LEWISTOWN, MONTANA 59457

SUMMARY OF PROJECT STATUS

Amount of Original Contract	\$ <u>526,968.60</u>
Change Order No. <u>1</u>	\$ <u>5,777.37</u>
Change Order No. <u>2</u>	\$ <u>79,742.25</u>
Change Order No. <u> </u>	\$ <u> </u>
Amount of Approved Change Order(s)	\$ <u>85,519.62</u>
TOTAL CONTRACT AMOUNT	\$ <u>612,488.22</u>

Pay Request No.	Amount of Request
1	\$101,594.33
2	\$126,552.34

Total Contract Amount Completed to Date	\$ <u>253,496.30</u>
Less Retainage (<u>10</u> %)	\$ <u>25,349.63</u>
TOTAL AMOUNT EARNED TO DATE	\$ <u>228,146.67</u>
Less Previous Payments	\$ <u>101,594.33</u>
AMOUNT DUE THIS PAYMENT	\$ <u>126,552.34</u>
Less 1% Tax	\$ <u>1,265.52</u>
TOTAL DUE CONTRACTOR	\$ <u>125,286.82</u>

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

By M K WEEDEN CONSTRUCTION INC.
 Contractor
Marto Weeden
 Date 8/22/95

RECOMMENDED BY:
SPECTRUM ENGINEERING INC.
 Engineer
William C Maehr
 Date 8/24/95

APPROVED BY:

355-74006 P
 DEPARTMENT OF STATE LANDS,
 ABANDONED MINE RECLAMATION BUREAU
 Owner
 By Joe R Anderson 2121
 AF/DOVAL
 Date 8-31-95

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1.	Mobilization-Lehigh	1 LS	42100.00	1	0	1	42,100.00	0.00
	Mobilization-Hughes F	1 LS	500.00	0	0	1	500.00	0.00
2.	Provide Water	25.0 Kgal	54.60	0	76.45	76.45	4,174.17	4,174.17
3.	Remove & replace coversoil-Lehigh	4000 CY	1.75	7,159 times ½	1,866 times ½	9,025 times ½	7,896.88	1,632.75
	Remove & replace coversoil-stock dam	410 CY	2.00	410 times ½	410 times ½	410	820.00	410.00
7.	Neutralize coversoil-Lehigh	4000 CY	1.48	0	0	0	0.00	0.00
5.	Haul kiln dust to Lehigh	3750 Tons	18.54	835.30	583.48	1418.78	26,304.18	10,817.72
6.	Excavate coal waste, neutralize & replace	91000 CY	3.97	8,750	27,497.94	36,247.94	143,904.32	109,166.82
7.	Borrow & place coversoil-Lehigh	1500 CY	1.30	0	0	0	0.00	0.00
8.	Excavate, transport & neutralize stock dam waste material	3350 CY	1.57	3,761 times ½	0	3,761 times ½	2,952.38	0.00
3.	Neutralize coversoil under stock dam	1.29 Ac	1273.00	0	0	0	0.00	0.00
10.	Neutralize coal waste Hughes F site 1	0.16 Ac	2798.00	0.16	0	0.16	447.68	0.00
	Neutralize coal waste Hughes F site 2	0.005 Ac	2798.00	0.005	0	0.005	13.99	0.00
11.	Remove/replace & compact dam material and keyway core	2900 CY	1.80	2,244	0	2,244	4,039.20	0.00
12.	Repair stock dam & excavate spillway	1040 CY	1.00	1,358	0	1,358	1,358.00	0.00
13.	Provide & place cover soil-Hughes F site 1	125 CY	0.32	0	0	0	0.00	0.00
	Provide & place cover soil-Hughes F site 2	4 CY	0.50	0	0	0	0.00	0.00
14.	Provide & place erosion mat-stock dam	1250 SqYd	2.21	0	0	0	0.00	0.00
	Provide & place erosion mat-Hughes F site 1	735 Sq Yd	2.21	720	0	720	1,591.20	0.00
	Provide & place erosion mat-Hughes F site 2	25 Sq Yd	2.21	60	0	60	132.60	0.00

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
15.	Fert./seed/mulch-Lehigh	15.70 Ac	750.00	0	0	0	0.00	0.00
	Fert./seed/mulch-dam	4.60	750.00	0	0	0	0.00	0.00
	Fert./seed/mulch-Hughes F site 1	0.57	750.00	0.28	0	0.28	210.00	0.00
	Fert./seed/mulch-Hughes F site 2	0.01	750.00	0.01	0	0.01	7.50	0.00
16.	Straw bale dike	195 Each	10.00	1	0	1	1,950.00	0.00
17.	MPDES Permit	1 Each	800.00	0	1	1	650.00	650.00
	Change Order 1 - Extra Pit (other items accounted for in line items above)			1		1	681.95	0.00
	Change Order 2 - Item 1	1 LS	10,000	0	0.244	0.244	2,440.00	2,440.00
	Change Order 2 - Item 2	30000 CY	0.50	0	14000	14000	7,000.00	7,000.00
	Change Order 2 - Item 3	1 LS	4,322.25	0	1	1	4,322.25	4,322.25
	Change Order 2 - Item 4	1 LS	50,420	0	0	0	0.00	0.00
	Materials on Site (Attach Schedule)	-	-	\$	\$	-	\$0.00	\$0.00
TOTALS							\$253,496.30	\$140,613.71

FOOTNOTE:

Item 3 Remove and Replace Coversoil: This item has two parts to it. The first half of this process (removal) has been completed at Lehigh. The entire process has been completed at the stock dam.

Item 6 Excavate, Neutralize & Replace Coal Waste: This item includes excavating the coal waste, crushing it as necessary, mixing it with lime kiln dust, running it through a pug mill, and replacing it back into the pit. Through pay request #1 35,000 cubic yards of coal waste had been excavated and stockpiled awaiting the next step. Excavation is equivalent to $\frac{1}{4}$ of the process, thus the quantity completed for pay request #1 was 8,750 cubic yards (35,000 times $\frac{1}{4}$).

Item 16 Straw Bale Dike: Due to a scarcity of certified straw, the Contractor was allowed to substitute 800 feet of silt fence for the 195 straw bales with no change in the price.

Item 17 MPDES Permit: The actual cost of the permit was \$650.00. This was reduced from the \$800.00 originally quoted from the Storm Water Bureau.

Change Order 2: Item 1 was to cover mobilizing an excavator to the site and cleaning and screening the lime kiln dust prior to hauling to Lehigh. This cost was \$1,300 for mobilization and \$8,700 for excavator time. Through Pay Request 2, a total of 12 hours of excavator time at \$95/hour was used or \$1,140 (12 x \$95) for a total under this item of \$2,440 (\$1300+\$1140).

PAY REQUEST BACKUP			
LEHIGH KILN DUST FROM CONTINENTAL LIME			
INVOICE #	SHIP DATE	TONS	NOTES
46465	6/11/95	24.96	
46466	6/12/95	24.74	
46467	6/13/95	25.03	
46468	6/15/95	37.30	
46469	6/17/95	37.11	
46470	6/19/95	36.64	
46471	6/19/95	37.60	
46472	6/20/95	36.60	
46473	6/21/95	37.45	
46474	6/22/95	36.84	
46475	6/24/95	40.07	
46476	6/24/95	39.59	
46477	6/26/95	41.45	
46478	6/26/95	39.58	
46479	6/27/95	39.54	
46480	6/27/95	34.91	
46481	6/29/95	24.83	
46482	7/05/95	43.94	
46483	7/08/95	41.14	
46484	7/09/95	36.52	
46485	7/10/95	38.03	
46486	7/11/95	36.30	
46487	7/14/95	45.13	
TONS FOR PAY REQUEST #1		835.30	
46485	7/10/95	-38.03	Loads 46485 & 46486 actually
46486	7/11/95	-36.30	went to Ed Baxter at Stockett
46488	7/22/95	34.16	
46489	7/24/95	25.38	
46490	7/24/95	42.06	
46491	7/25/95	42.82	
46492	7/26/95	37.66	
46493	7/26/95	36.82	
46494	7/27/95	40.70	
46495	7/28/95	35.54	
46496	7/30/95	40.05	
46497	7/31/95	41.30	
46498	8/7/95	43.85	
46500	8/11/95	33.81	
46501	8/11/95	47.94	
46502	8/14/95	37.43	
	8/14/95		
	8/14/95	81.75	
47910	8/18/95	36.54	
TONS FOR PAY REQUEST #2		583.48	
TONS TO DATE		1418.78	

PAY REQUEST BACKUP
WATER FOR DUST CONTROL

DATE	# OF LOADS	GALLONS PER LOAD	WEEDEN	PRINCE	TOTAL GALLONS
7/27/95	2	3000	6000		6000
7/28/95	1	3000	3000		9000
7/31/95	0.75	3000	2250		11250
8/2/95	2	3000	6000		17250
8/4/95	2	3000	6000		23250
8/7/95	1	3800		3800	27050
8/8/95	2	3800		7600	34650
8/9/95	1	3800		3800	38450
8/10/95	1	3800		3800	42250
8/11/95	1	3800		3800	46050
8/14/95	1	3800		3800	49850
8/16/95	1	3800		3800	53650
8/18/95	1	3800		3800	57450
8/21/95	1	3800		3800	61250
8/22/95	2	3800		7600	68850
8/23/95	1	3800		3800	72650
8/24/95	1	3800		3800	76450
TOTAL TO DATE			23250	53200	76450



PAYMENT REQUEST NO. 3

FROM 08/26/1995 TO 10/01/1995

PROJECT TITLE: LEHIGH PROJECT

LOCATION: JUDITH BASIN COUNTY MONT DSL-AMRB: 94-002

NAME OF CONTRACTOR: M K WEEDEN CONSTRUCTION INC.

ADDRESS: 941 W. ERIE, LEWISTOWN, MONTANA 59457

SUMMARY OF PROJECT STATUS

Amount of Original Contract	\$ <u>526,968.60</u>
Change Order No. <u>1</u>	\$ <u>5,777.37</u>
Change Order No. <u>2</u>	\$ <u>79,742.25</u>
Change Order No. <u>3</u>	\$ <u>21,342.03</u>
Amount of Approved Change Order(s)	\$ <u>106,861.65</u>
TOTAL CONTRACT AMOUNT	\$ <u>633,830.25</u>

Pay Request No.	Amount of Request
1	\$101,594.33
2	\$126,552.34
3	\$198,606.46

Total Contract Amount Completed to Date	\$ <u>449,221.23</u>
Less Retainage (<u>5</u> %)	\$ <u>22,461.06</u>
TOTAL AMOUNT EARNED TO DATE	\$ <u>426,760.17</u>
Less Previous Payments	\$ <u>228,146.67</u>
AMOUNT DUE THIS PAYMENT	\$ <u>198,613.50</u>
Less 1% Tax	\$ <u>1,986.13</u>
TOTAL DUE CONTRACTOR	\$ <u>196,627.37</u>

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

M K WEEDEN CONSTRUCTION INC.

By Monte Weeden Contractor

Date 10-10-95

RECOMMENDED BY:

SPECTRUM ENGINEERING INC.

By William C. Maier Engineer

Date 10/6/95

APPROVED BY:

DEPARTMENT OF ENVIRONMENTAL QUALITY,
ABANDONED MINE RECLAMATION BUREAU

Owner

By	<u>30165 357-7006 P</u>
Date	<u>10-12-95</u>
RESP. ENTR.	
OBJ. EXP.	<u>4141</u>
APPROVAL	<u>W. R. Anderson</u>
DATE	<u>10-12-95</u>

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1.	Mobilization-Lehigh	1 LS	42100.00	1	0	1	42,100.00	0.00
	Mobilization-Hughes F	1 LS	500.00	1	0	1	500.00	0.00
2.	Provide Water	25.0 Kgal	54.60	76.45	30.4	106.85	5,834.01	1,659.84
3.	Remove & replace coversoil-Lehigh	4000 CY	1.75	9,025 times ½	9,025	9,025	15,793.75	7,896.87
	Remove & replace coversoil-stock dam	410 CY	2.00	410	0	410	820.00	0.00
4.	Neutralize coversoil-Lehigh	4000 CY	1.48	0	4,000 *	4,000	5,920.00	5,920.00
5.	Haul kiln dust to Lehigh	3750 Tons	18.54	1418.78	961.53	2380.71	44,138.36	17,826.77
6.	Excavate coal waste, neutralize & replace	91000 CY	3.97	36,247.94	18,068.57	54,316.52	215,636.58	71,732.22
7.	Borrow & place coversoil-Lehigh	1500 CY	1.30	0	0	0	0.00	0.00
8.	Excavate, transport & neutralize stock dam waste material	3350 CY	1.57	3,761 times ½	3,761	3,761	5,904.77	2,952.39
9.	Neutralize coversoil under stock dam	1.29 Ac	1273.00	0	0.005	0.32	407.36	407.36
10.	Neutralize coal waste Hughes F site 1	0.16 Ac	2798.00	0.16	0	0.16	447.68	0.00
	Neutralize coal waste Hughes F site 2	0.005 Ac	2798.00	0.005	0	0.005	13.99	0.00
11.	Remove/replace & compact dam material and keyway core	2900 CY	1.80	2,244	0	2,244	4,039.20	0.00
12.	Repair stock dam & excavate spillway	1040 CY	1.00	1,358	0	1,358	1,358.00	0.00
13.	Provide & place cover soil-Hughes F site 1	125 CY	0.32	0	0	0	0.00	0.00
	Provide & place cover soil-Hughes F site 2	4 CY	0.50	0	0	0	0.00	0.00
14.	Provide & place erosion mat-stock dam	1250 SqYd	2.21	0	0	0	0.00	0.00
	Provide & place erosion mat-Hughes F site 1	735 Sq Yd	2.21	720	0	720	1,591.20	0.00
	Provide & place erosion mat-Hughes F site 2	25 Sq Yd	2.21	60	0	60	132.60	0.00

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
15.	Fert./seed/mulch-Lehigh	15.70 Ac	750.00	0	0	0	0.00	0.00
	Fert./seed/mulch-dam	4.60	750.00	0	0	0	0.00	0.00
	Fert./seed/mulch-Hughes F site 1	0.57	750.00	0.28	0	0.28	210.00	0.00
	Fert./seed/mulch-Hughes F site 2	0.01	750.00	0.01	0	0.01	7.50	0.00
16.	Straw bale dike	195 Each	10.00	1	0	1	1,950.00	0.00
17.	MPDES Permit	1 Each	800.00	1	0	1	650.00	0.00
	Change Order 1 - Extra Pit (other items accounted for in line items above)			1		1	681.95	0.00
	Change Order 2 - Item 1	1 LS	10,000	0.244	0	0.244	2,440.00	0.00
	Change Order 2 - Item 2	30000 CY	0.50	14000	16000	30000	15,000.00	8,000.00
	Change Order 2 - Item 3	1 LS	4,322.25	1	0	1	4,322.25	0.00
	Change Order 2 - Item 4	1 LS	50,420	0	1	1	50,420.00	50,420.00
	Change Order 3 - Item 2	1 LS	2173.83	0	1	1	2,173.83	2,173.83
	Change Order 3 - Item 3	431.1 Tons	62.00	0	431.1	431.1	26,728.20	26,728.20
	Materials on Site (Attach Schedule)	-	-	\$	\$	-	\$0.00	\$0.00
TOTALS							\$449,221.23	\$195,717.48

FOOTNOTE:

Item 16 Straw Bale Dike: Due to a scarcity of certified straw, the Contractor was allowed to substitute 800 feet of silt fence for the 195 straw bales with no change in the price.

PAY REQUEST BACKUP
LEHIGH KILN DUST FROM CONTINENTAL LIME

INVOICE #	SHIP DATE	TONS	NOTES
46465	6/11/95	24.96	
46466	6/12/95	24.74	
46467	6/13/95	25.03	
46468	6/15/95	37.30	
46469	6/17/95	37.11	
46470	6/19/95	36.64	
46471	6/19/95	37.60	
46472	6/20/95	36.60	
46473	6/21/95	37.45	
46474	6/22/95	36.84	
46475	6/24/95	40.07	
46476	6/24/95	39.59	
46477	6/26/95	41.45	
46478	6/26/95	39.58	
46479	6/27/95	39.54	
46480	6/27/95	34.91	
46481	6/29/95	24.83	
46482	7/05/95	43.94	
46483	7/08/95	41.14	
46484	7/09/95	36.52	
46485	7/10/95	38.03	
46486	7/11/95	36.30	
46487	7/14/95	45.13	
TONS FOR PAY REQUEST #1		835.30	
46485	7/10/95	-38.03	Loads 46485 & 46486 actually
46486	7/11/95	-36.30	went to Ed Baxter at Stockett
46488	7/22/95	34.16	
46489	7/24/95	25.38	
46490	7/24/95	42.06	
46491	7/25/95	42.82	
46492	7/26/95	37.66	
46493	7/26/95	36.82	
46494	7/27/95	40.70	
46495	7/28/95	35.54	
46496	7/30/95	40.05	
46497	7/31/95	41.30	
46498	8/7/95	43.85	
46500	8/11/95	33.81	
46501	8/11/95	47.94	
46502	8/14/95	37.43	
5859	8/14/95	81.75	
47910	8/18/95	36.54	
TONS FOR PAY REQUEST #2		583.48	

PAY REQUEST BACKUP					
LEHIGH KILN DUST FROM CONTINENTAL LIME					
INVOICE #	SHIP DATE	TONS	NOTES		
None	8/14/95	-81.75	Paid under Pay Request #2 (Invoice 5859) which was actually 46500 and 46501 so 81.75 tons were double-booked		
46506	8/16/95	37.57	Lavelle		
46507	8/16/95	46.32	Lavelle		
46508	8/16/95	43.59	Lavelle		
46509	8/16/95	48.00	Lavelle		
46510	8/16/95	45.71			
46511	8/16/95	33.56			
46512	8/17/95		29.82	Lavelle	oversize-load rejected
46513	8/17/95		33.41	Lavelle	oversize-load rejected
46514	8/17/95		33.47	Lavelle	oversize-load rejected
46515	8/17/95	35.05			
46503	8/21/95	42.06			
47911	8/21/95	42.20			
46504	8/22/95	42.51			
46505	8/23/95	36.68			
47912	8/24/95	36.82			
47913	8/24/95	43.31			
47914	8/25/95	41.98			
47915	8/26/95	39.32			
47916	8/26/95	41.97			
47917	8/27/95	42.26			
47918	8/28/95	45.64			
47919	8/28/95	40.03			
47920	8/29/95	44.66			
47921	8/30/95	39.80			
47922	8/30/95	39.71			
47923	8/31/95	42.37			
47924	9/1/95	40.30			
47925	9/6/95	51.86			
TONS FOR PAY REQUEST #3		961.53			
TOTAL TONS		2380.31			

PAY REQUEST BACKUP
WATER FOR DUST CONTROL

	# OF	GALLONS			TOTAL
DATE	LOADS	PER LOAD	WEEDEN	PRINCE	GALLONS
7/27/95	2	3000	6000		6000
7/28/95	1	3000	3000		9000
7/31/95	0.75	3000	2250		11250
8/2/95	2	3000	6000		17250
8/4/95	2	3000	6000		23250
8/7/95	1	3800		3800	27050
8/8/95	2	3800		7600	34650
8/9/95	1	3800		3800	38450
8/10/95	1	3800		3800	42250
8/11/95	1	3800		3800	46050
8/14/95	1	3800		3800	49850
8/16/95	1	3800		3800	53650
8/18/95	1	3800		3800	57450
8/21/95	1	3800		3800	61250
8/22/95	2	3800		7600	68850
8/23/95	1	3800		3800	72650
8/24/95	1	3800		3800	76450
8/28/95	1	3800		3800	80250
8/29/95	1	3800		3800	84050
8/30/95	1	3800		3800	87850
8/31/95	1	3800		3800	91650
9/1/95	1	3800		3800	95450
9/5/95	1	3800		3800	99250
9/6/95	1	3800		3800	103050
9/7/95	1	3800		3800	106850
TOTAL TO DATE			23250	83600	106850

PAYMENT REQUEST NO. 4 - FINAL

FROM 10/01/1995 TO 11/16/1995

PROJECT TITLE: LEHIGH PROJECT

LOCATION: JUDITH BASIN COUNTY MT DEQ-AMRB: 94-002

NAME OF CONTRACTOR: M K WEEDEN CONSTRUCTION INC.

ADDRESS: 941 W. ERIE, LEWISTOWN, MONTANA 59457

SUMMARY OF PROJECT STATUS

Amount of Original Contract \$ 526,968.60

Change Order No. <u>1</u>	\$ <u>5,777.37.</u>
Change Order No. <u>2</u>	\$ <u>79,742.25</u>
Change Order No. <u>3</u>	\$ <u>21,342.03</u>
Change Order No. <u>4</u>	\$ <u>161,832.93</u>

Amount of Approved Change Order(s) \$ -54,971.36

TOTAL CONTRACT AMOUNT \$ 471,997.32

Pay Request No.	Amount of Request
1	\$101,594.33
2	\$126,552.34
3	\$198,606.46
4	\$45,244.19

Total Contract Amount Completed to Date \$ 471,997.32

Less Retainage (0 %) \$ 0.00

TOTAL AMOUNT EARNED TO DATE \$ 471,997.32

Less Previous Payments \$ 426,753.13

AMOUNT DUE THIS PAYMENT \$ 45,244.19

Less 1% Tax \$ 452.44

TOTAL DUE CONTRACTOR \$ 44,791.75

I certify that this claim is correct and just in all respects and
that payment or credit has not been received.

M K WEEDEN CONSTRUCTION INC.

Contractor

By Mark Weeden

Date 12/5/95

APPROVED BY:

DEPARTMENT OF ENVIRONMENTAL QUALITY,
ABANDONED MINE RECLAMATION BUREAU

Owner

By _____

Date _____

REC'D. CNTR. 35507 0006 1

OBL. EXP. 2/21

APPROVAL Mark Anderson

DATE 12-15-95

RECOMMENDED BY:

SPECTRUM ENGINEERING INC.

Engineer

By William C. Muell

Date 12/4/95

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1.	Mobilization-Lehigh	1 LS	42100.00	1	0	1	42,100.00	0.00
	Mobilization-Hughes F	1 LS	500.00	1	0	1	500.00	0.00
2.	Provide Water	25.0 Kgal	54.60	106.85	0	106.85	5,834.01	0.00
3.	Remove & replace coversoil-Lehigh	4000 CY	1.75	9,025	0	9,025	15,793.75	0.00
	Remove & replace coversoil-stock dam	410 CY	2.00	410	0	410	820.00	0.00
4.	Neutralize coversoil-Lehigh	4000 CY	1.48	4,000	0	4,000	5,920.00	0.00
5.	Haul kiln dust to Lehigh	3750 Tons	18.54	2,380.71	0	2380.71	44,138.36	0.00
6.	Excavate coal waste, neutralize & replace	91000 CY	3.97	54,316.52	0	54,316.52	215,636.58	0.00
7.	Borrow & place coversoil-Lehigh	1500 CY	1.30	0	0	0	0.00	0.00
8.	Excavate, transport & neutralize stock dam waste material	3350 CY	1.57	3,761	0	3,761	5,904.77	0.00
9.	Neutralize coversoil under stock dam	1.29 Ac	1273.90	0.32	0	0.32	407.65	0.29*
10.	Neutralize coal waste Hughes F site 1	0.16 Ac	2798.00	0.16	0	0.16	447.68	0.00
	Neutralize coal waste Hughes F site 2	0.005 Ac	2798.00	0.005	0	0.005	13.99	0.00
11.	Remove/replace & compact dam material and keyway core	2900 CY	1.80	2,244	0	2,244	4,039.20	0.00
12.	Repair stock dam & excavate spillway	1040 CY	1.00	1,358	0	1,358	1,358.00	0.00
13.	Provide & place cover soil-Hughes F site 1	125 CY	0.32	0	0	0	0.00	0.00
	Provide & place cover soil-Hughes F site 2	4 CY	0.50	0	0	0	0.00	0.00
14.	Provide & place erosion mat-stock dam	1250 SqYd	2.21	0	1,250	1,250	2,762.50	2,762.50
	Provide & place erosion mat-Hughes F site 1	735 Sq Yd	2.21	720	0	720	1,591.20	0.00
	Provide & place erosion mat-Hughes F site 2	25 Sq Yd	2.21	60	0	60	132.60	0.00

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
15.	Fert./seed/mulch-Lehigh	15.70 Ac	750.00	0	19.61	19.61	14,707.50	14,707.50
	Fert./seed/mulch-dam	4.60	750.00	0	1.11	1.11	832.50	832.50
	Fert./seed/mulch-Hughes F site 1	0.57	750.00	0.28	0	0.28	210.00	0.00
	Fert./seed/mulch-Hughes F site 2	0.01	750.00	0.01	0	0.01	7.50	0.00
16.	Straw bale dike	195 Each	10.00	1	0	1	1,950.00	0.00
17.	MPDES Permit	1 Each	800.00	1	0	1	650.00	0.00
	Change Order 1 - Extra Pit (other items accounted for in line items above)			1		1	681.95	0.00
	Change Order 2 - Item 1	1 LS	10,000	0.244	0	0.244	2,440.00	0.00
	Change Order 2 - Item 2	30000 CY	0.50	30000	0	30000	15,000.00	0.00
	Change Order 2 - Item 3	1 LS	4,322.25	1	0	1	4,322.25	0.00
	Change Order 2 - Item 4	1 LS	50,420	1	0	1	50,420.00	0.00
	Change Order 3 - Item 2	1 LS	2173.83	1	0	1	2,173.83	0.00
	Change Order 3 - Item 3	431.1 Tons	62.00	431.1	0	431.1	26,728.20	0.00
	Change Order 4 - Item 3	72.15 Tons	62.00	0	72.15	72.15	4,473.30	4,473.30
	Change Order 4 - All of CO4 is final quantity adjustments of Bid Items listed above							
	Materials on Site (Attach Schedule)	--	--	\$	\$	--	\$0.00	\$0.00
TOTALS							\$471,997.32	\$22,776.09

FOOTNOTE:

* Item 9 had the wrong contract unit price of \$1,273.00/acre listed on the previous payment request. The correct bid price is \$1,273.90/acre resulting in an additional payment due to the Contractor of \$0.29 (0.32 acres x \$0.90/acre previously not paid). The amount of \$407.36 was paid under Payment Request 3 for Item 9.

Item 16 Straw Bale Dike: Due to a scarcity of certified straw, the Contractor was allowed to substitute 800 feet of silt fence for the 195 straw bales with no change in the price.



ATTACHMENT 4

ANALYSIS OF CONSULTANT COSTS INCURRED



ANALYSIS OF CONSULTANT COSTS INCURRED
 FOR THE MONTANA DEPARTMENT OF
 ENVIRONMENTAL QUALITY
 ABANDONED MINE RECLAMATION BUREAU
 AMR PROJECT NUMBER: DSL-AMRB 94-002
 LEHIGH PROJECT
 DATE OF PREPARATION: JANUARY 16TH, 1996

ENGINEERING SERVICE	AMOUNT
DESIGN ENGINEERING:	
Lime Procurement & Hughes F Maintenance Project	\$14,271.35
Lehigh Project	<u>\$31,440.08</u>
TOTAL DESIGN	\$45,711.43
CONSTRUCTION ENGINEERING AND INSPECTION:	
Hughes F Maintenance Project	\$48,203.43
Lehigh Project	<u>\$61,602.43</u>
TOTAL CONSTRUCTION ENGINEERING	<u>\$109,805.86</u>
PROJECT ENGINEERING COST:	\$155,517.29
CONSTRUCTION COST:	
Continental Lime	\$116,107.20
Century Companies	\$363,913.41
M. K. Weeden Construction	<u>\$471,997.32</u>
TOTAL CONSTRUCTION COST	\$952,017.93
PERCENTAGE ENGINEERING FEES TO CONSTRUCTION COST:	
DESIGN ENGINEERING/CONSTRUCTION COST	4.80%
CONSTRUCTION ENGINEERING/CONSTRUCTION COST	11.54%
TOTAL ENGINEERING COST/CONSTRUCTION COST	16.34%

REMARKS: Services provided by Spectrum Engineering included planning, surveying, field engineering and sample collection, laboratory analyses, bid document preparation, contract administration, quantity accounting, full time construction inspection and final report preparation and project close-out.

ATTACHMENT 5

CONSTRUCTION BID PACKAGE DRAWINGS



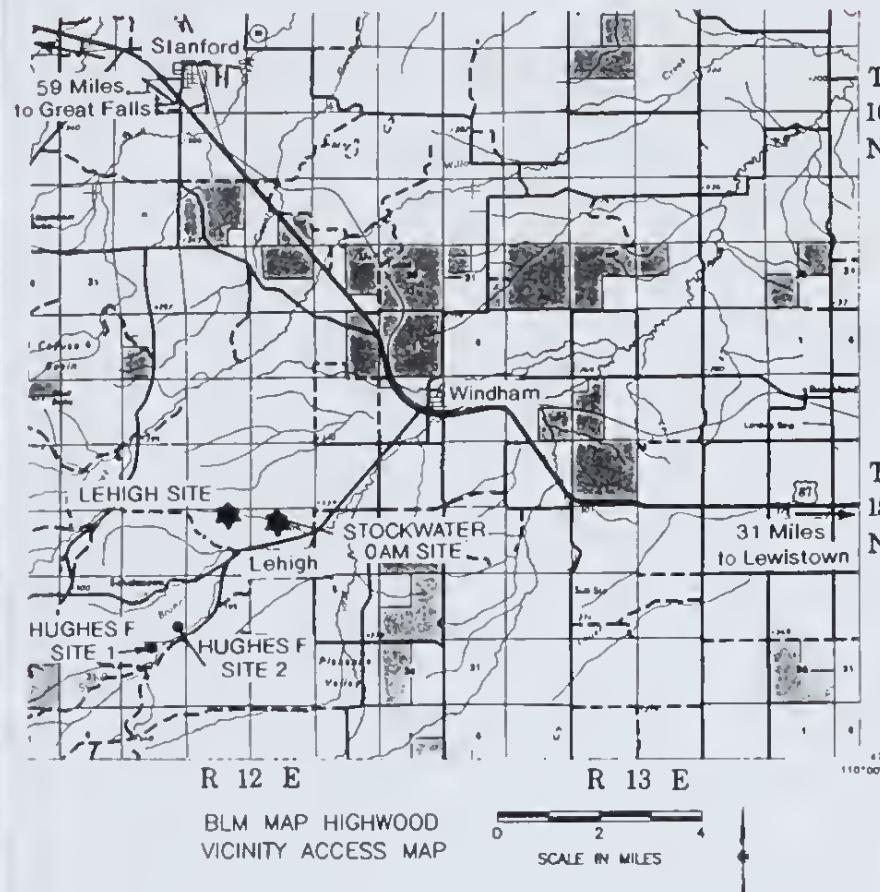
LEHIGH PROJECT

MT DSL-AMRB 94-002

LOCATED IN JUDITH BASIN COUNTY, MONTANA

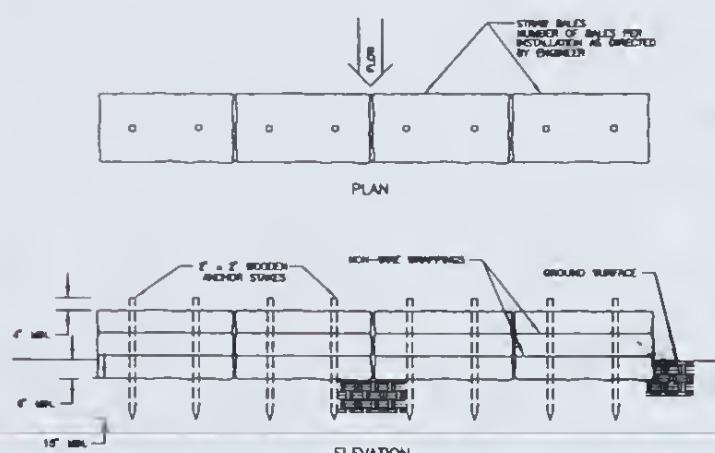
PREPARED FOR:

MONTANA DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU



DIKE DETAIL

NO SCALE



BEST MANAGEMENT PRACTICES (BMP'S)

SITE NAME	LEGAL	DISTURBED ACRES	TIME LAPSE ¹	SURFACE WATER LOCATION ²	STRAW BALES
LEHIGH SITE	T15N, R12E, SEC. 21 N1/2NE1/4	15.70	90	0	195
STOCKWATER OAM SITE	T15N, R12E, SEC. 22, NE1/4NW1/4	4.60	5	0	0
HUGHES F SITE 1	T15N, R12E, SEC. 32, NW1/4NE1/4	0.57	3	0.25	0
HUGHES F SITE 2	T15N, R12E, SEC. 29, SE1/4SE1/4	0.01	2	0	0

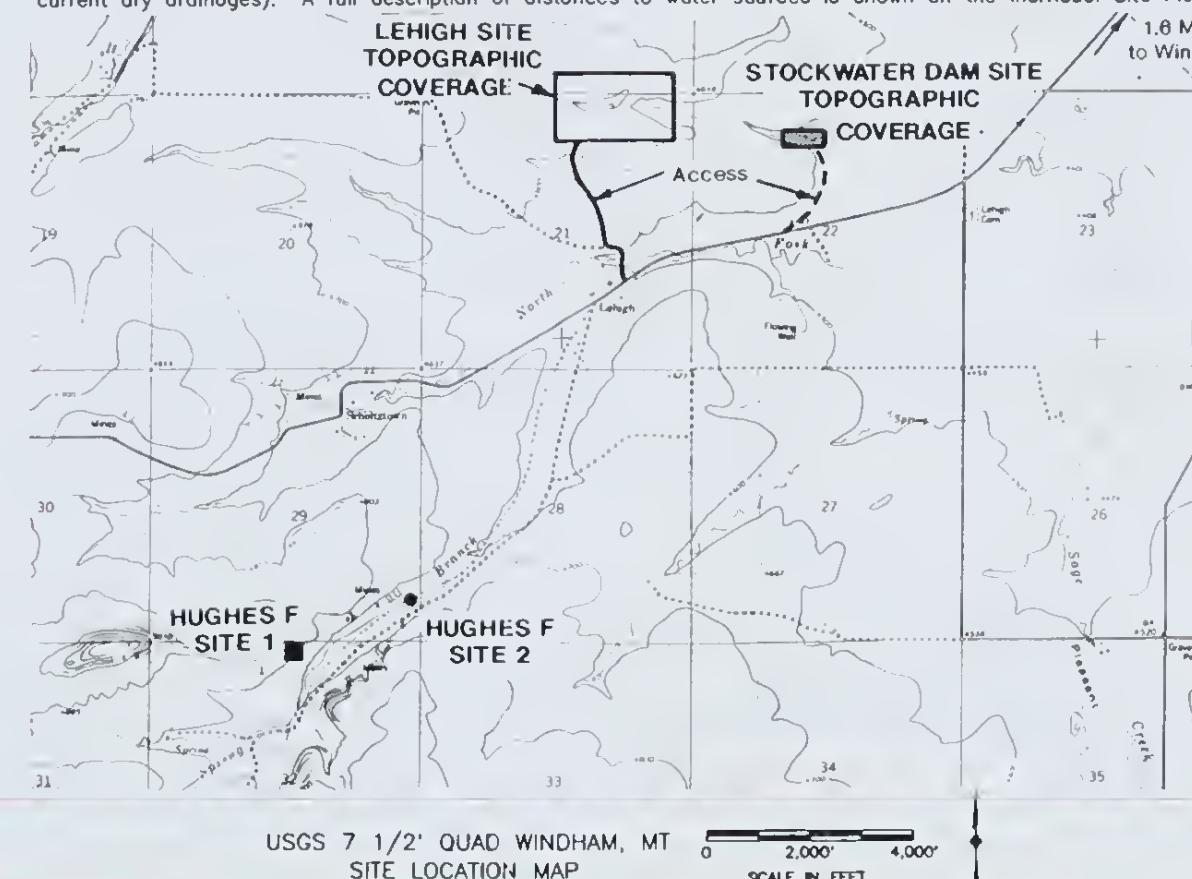
The purpose of this project is to reclaim abandoned coal mines previously reclaimed and now requiring some additional maintenance work. The construction activity for each site is described under the Work Description found on the Individual Site Plans. Work tasks will include excavating buried coal waste, neutralizing this waste with lime kiln dust and replacing this coal waste; excavating, neutralizing, hauling, and placing waste material from behind a dam near the main site; excavating an emergency spillway for a dam and rebuilding that dam, neutralizing coal slack; and revegetating all disturbed areas. Best Management Practices (BMP's) during construction to control sediment and erosion in storm runoff include: temporary stabilization practices of mulching the entire area to be revegetated and placing straw bales for erosion control (as required see table above); and permanent stabilization practices of seeding and fertilizing (100% revegetation of all sites).

The Owner is the Montana Department of State Lands, Reclamation Division, Abandoned Mine Reclamation Bureau, 1625 11th Avenue, Helena, Montana 59620 at telephone 1-444-2074. The Project Manager is Joel Chavez.

Good housekeeping for petroleum products, wastes, fertilizer and off-site tracking will be followed by the Contractor as outlined in MPOES Stormwater Discharge Permit and Erosion Control Plan. Good housekeeping charges will include as a minimum: 1) Any construction waste from materials packaging, or other Contractor generated waste will be disposed of in a licensed disposal facility; 2) If conditions on-site become such that there is potential to track sediment off-site, then all vehicles shall be washed down before being allowed to leave the project area. Vehicle washing will take place so as to contain all washed sediment in such a manner as to prevent spillage and prevent contamination of the surrounding soil. All materials shall be stored in a bermed plastic lined storage area with a capacity of 110 percent of the largest container. Absorbent material shall be available on-site for clean up of any spills. Any soil contaminated with petroleum wastes will be disposed of under a plan approved by the Montana Department of Health and Environmental Sciences; and 4) Lime and fertilizer shall be stored on pallets off the ground or on plastic ground covers and covered with plastic or in other such manner as to prevent spillage and washing from rain water or wind into surrounding soil or off-site.

FOOTNOTES

1. Estimated time period in days from the start of construction until the site is permanently fertilized and seeded. This is the time from site arrival until demobilization. Temporary stabilization will include mulch and straw bales as outlined above.
2. The distance in miles to the nearest source of potential surface water including rivers and streams (perennial, intermittent or current dry drainages). A full description of distances to water sources is shown on the individual Site Plans.



MAP SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1
LEHIGH CURRENT TOPOGRAPHY	2
LEHIGH COAL WASTE ISOPACH	3
LEHIGH WORK PLAN	4
STOCKWATER DAM SITE	5
HUGHES F SITES 1 AND 2	6
PHOTOGRAPH SHEET	7

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THE WORK SHOWN ON THESE MAPS AND PLANS WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.

Vern K. Heisler
Montana P.E. No. 10464 PE

SITE PLAN AND GENERAL LAYOUT

LEHIGH PROJECT

SECTION 21, T15N, R12E

JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 11th Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING

Mining and Civil Engineers

1625 11th Avenue North
Billings, Montana 59101
Phone: 406-242-2412

DATE: December 1994
DRAWN BY: V.K. HEISLER
APPROVED BY: V.K. HEISLER
REVISIONS NO. DATE BY
SHEET NO. 1 of 7





SITE PLAN AND GENERAL LAYOUT

LEHIGH PROJECT

CURRENT TOPOGRAPHY

SECTION 21, T15N, R12E

JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1025 Seventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING

Mining and Civil Engineers

1413 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412

DATE December 1994

DRAWN BY: M01

APPROVED BY: DMR

REVISIONS

NO. DATE BY

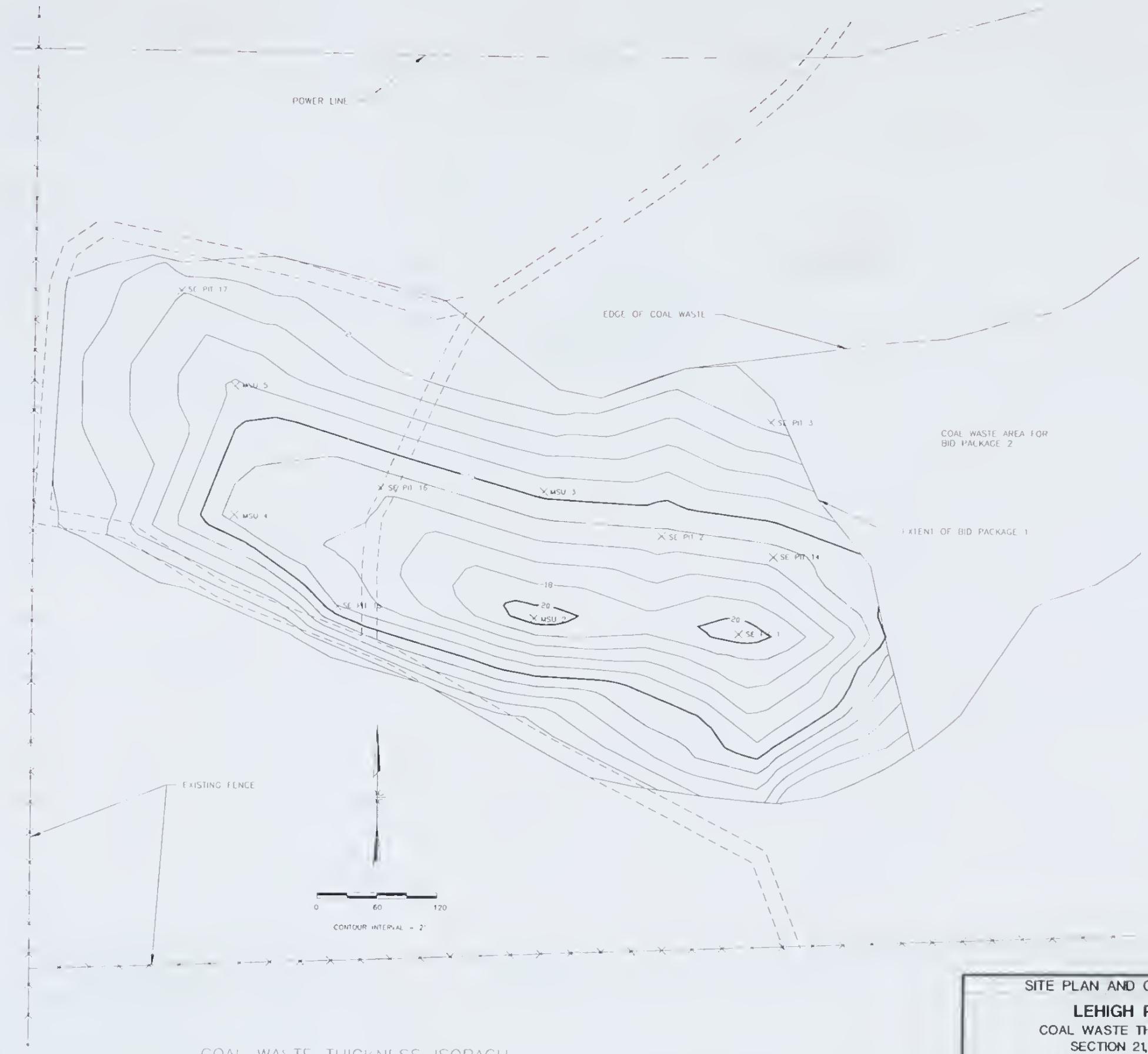
SHEET NO. 2 of 7



TEST PIT DATA		
Test Pit Number	Cover Soil Thickness (in)	Coal Waste Thickness (ft)
SE PIT 1	0	21.50
SE PIT 2	7	12.67
SE PIT 3	6	1.25
SE PIT 14	6	13.08
SE PIT 15	4	12.08
SE PIT 16	5	13.07
SE PIT 17	10	4.00
MSU 2	0-6	21.33
MSU 3	0-12	9.33
MSU 4	0-11	13.08
MSU 5	0-10	8.50

LEGEND

- 10 — Coal Waste Thickness Contour
- × SE PIT 1 Test Pit Number and Location
- Access Road
- Lime Kiln Dust Treatment Area



COAL WASTE THICKNESS ISOPACH

SITE PLAN AND GENERAL LAYOUT

LEHIGH PROJECT

COAL WASTE THICKNESS ISOPACH

SECTION 21, T15N, R12E

JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1825 Seventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING

Mining and Civil Engineers

1413 4th Avenue North
Billings, Montana 59101
Phone: 406-269-2412

DATE December 1994
DRAWN BY V.W.H.
APPROVED BY G.W.A.
REVISIONS NO. DATE BY
SHEET NO. 3 of 7



WORK DESCRIPTION

The Contractor shall strip, stockpile and replace cover soil (4,000 CY) according to Subsection 310.00 of the Technical Specifications. Cover soil shall be stripped to within one-half inch of the underlying coal waste from the lime kiln dust treatment area shown on the site plan (6.79 acres). Cover soil thickness at the site (based on eleven test holes) ranges from zero to ten inches. The average cover soil thickness is about 4.4 inches. The Engineer will determine the depth of cover soil to be salvaged by staking salvage depth, prior to stripping. Care must be taken to prevent the underlying coal waste from being mixed with the salvaged cover soil. The Contractor shall stockpile cover soil as shown.

After cover soil stockpiling, the Contractor shall excavate the coal waste (91,000 CY) from the lime treatment area and neutralize with lime kiln dust as described below. Approximately 18,900 tons of this lime kiln dust will be stored at the site from a previous bid package. The Contractor shall haul an additional 3,750 tons of lime kiln dust from Continental Lime Inc to the Lehigh project site during the course of this project as described in the bid document. The Contractor shall unload and incorporate this lime kiln dust into the coal waste as defined within this bid document. This lime kiln dust will not be required to be purchased by the Contractor for this bid package.

The required process of mixing the lime kiln dust with the coal waste is shown and described in Section III of this bid package. As such, the Contractor is referred to Section III of this bid package for a complete description. This description is not repeated here. Limiting the amount of dust lost to the environment during the crushing, mixing and replacing of the coal waste and for the use of the lime kiln dust is critical to the successful completion of this project. Therefore, dust controlling measures shall be required during the course of this project. These measures include spray bars for the pug mill and any other precautions deemed necessary by the Engineer. The Contractor shall remove the lime kiln dust from the storage trenches as necessary. The lime kiln dust hauled during the course of this project shall be incorporated into the coal waste as the lime kiln dust is hauled to the site. Therefore, this lime kiln dust will not be required to be placed in the storage trenches currently at the site. The rate of lime kiln dust mixing shall be 300 tons of lime kiln dust to 1,000 tons of coal waste. Note that the density of this coal waste is 1,720 lb/CY. As a result, the lime kiln dust mixing rate translates to 300 tons of lime kiln dust to 1,163 CY of coal waste. Following placement of the neutralized coal waste the Contractor shall rough grade the site to match the existing contours.

The Contractor shall replace the cover soil that was stripped and stockpiled overlying the coal waste following placement of the neutralized coal waste. The cover soil shall be placed in one six inch lift and neutralized with calcium carbonate. Calcium carbonate shall meet the specifications set forth in this document and as specified in Technical Specification 301. This neutralization requires uniform lime mixing with equipment designed for such mixing throughout the entire depth of the cover soil in accordance with Technical Specification 301 and as specified on the Site Plan and the Special Provisions. This incorporation of lime shall not extend below the cover soil depth. The lime rate is 20 tons/acre/6" slice. Care must be taken to avoid mixing the cover soil with the underlying neutralized coal waste. Tilling equipment for this operation shall incorporate the lime by operating parallel to the contour. Note that lime kiln dust shall not be used for neutralization of the cover soil.

The Contractor shall borrow 1,500 cubic yards of cover soil from the location shown on the Site Plan and place it in one six inch lift over the neutralized coal waste in those areas not covered by the placement of the neutralized cover soil described above. The Contractor shall borrow approximately 15" of cover soil from the cover soil borrow area. The exact depth of borrow will be determined by the Owner during the construction of this project. The Contractor shall grade the borrow area to blend with the surrounding topography once the cover soil is removed.

All disturbed areas shall be drill seeded (376.8 pounds) and fertilized (2,041 pounds). Then mulch (47,100 pounds) shall be applied and crimped over all of the 15.7 vegetated acres. The storage pits, embankments and cover soil stockpiles will not be revegetated.

The Contractor shall place a straw bale dike (one row 780 feet in length—approximately 195 bales) end to end along the bottom of the construction area as shown on the Site Plan. The straw bale dike shall be installed in accordance with the requirements within the bid document and as shown on the cover sheet in Appendix B.

HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for apprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

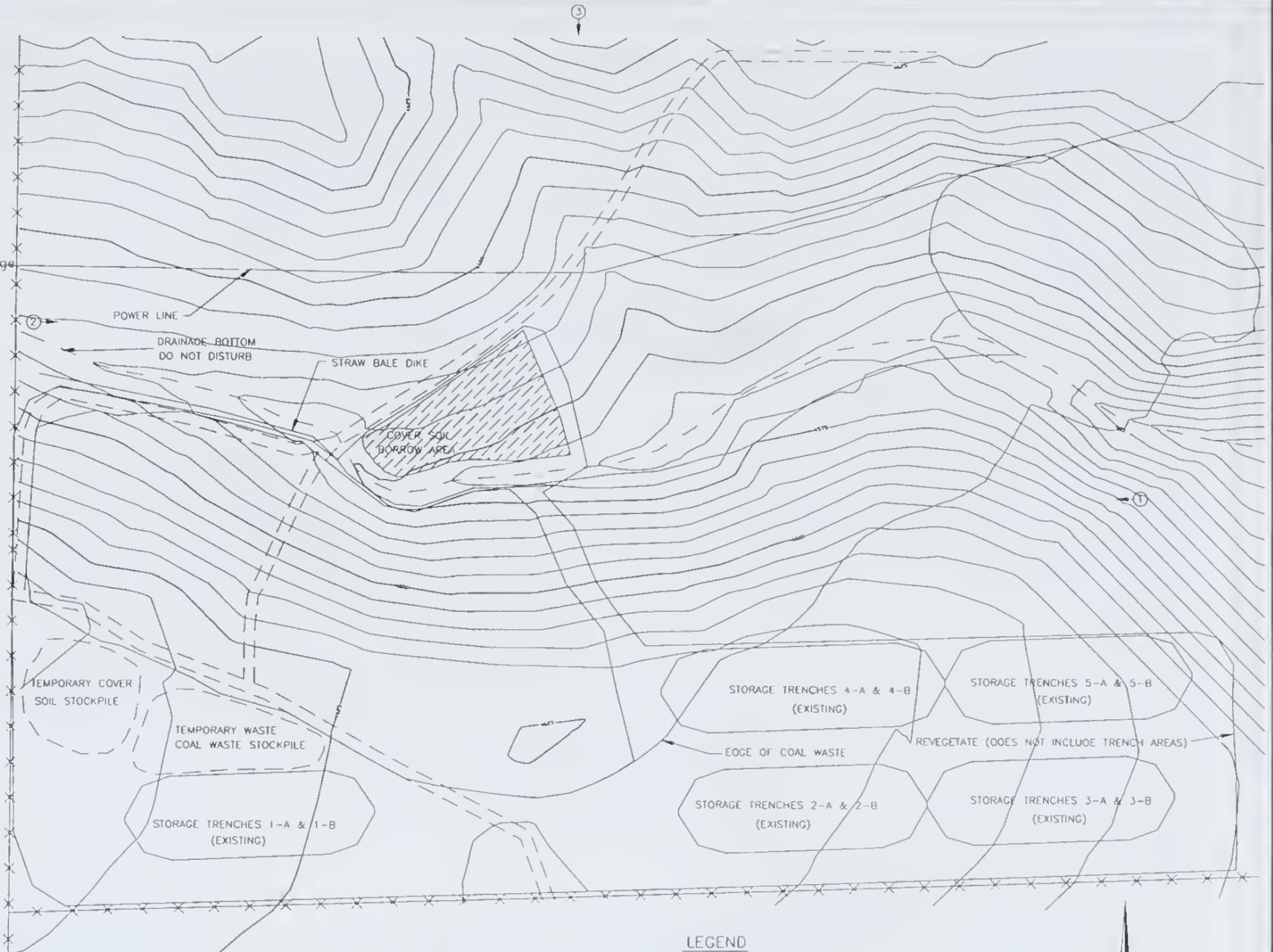
ARCHAEOLOGICAL NOTICE

There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

The site is located adjacent to a drainage which flows into Sage Creek 1 1/4 miles away. Using the SCS method, the hydrologic soil group is C and the runoff curve number (CN) is 74.



NOTE

Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

LEGEND

- 4600 — Contour
- ① — Picture Number and Orientation
- Access Road
- Lime Kiln Dust Treatment Area
- Cover Soil Borrow Area

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

BASE MAP

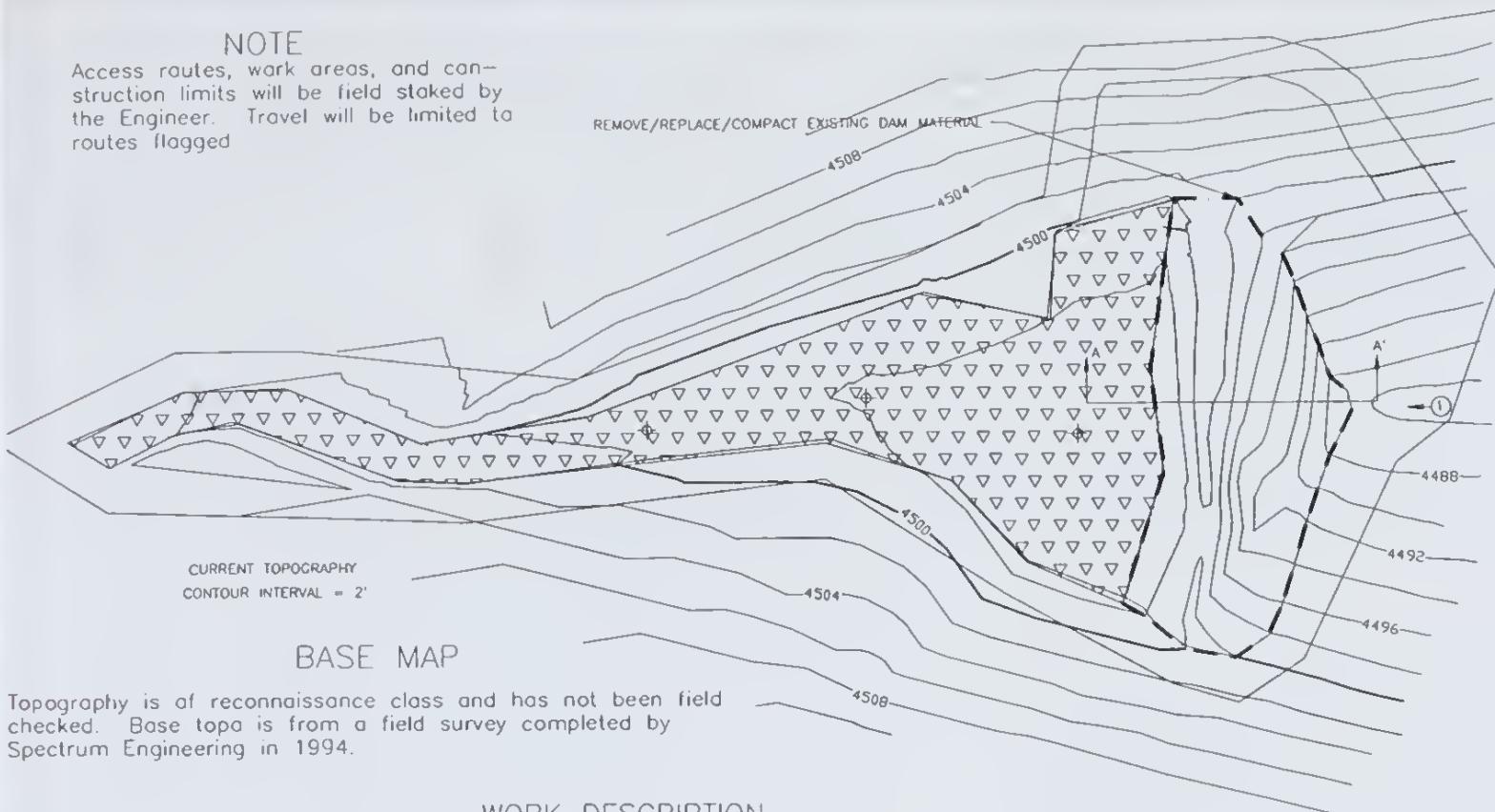
Topography is of reconnaissance class and has not been field checked. Base topo is a compilation of field survey done by Civil Design Solutions in 1997 and reverified by Spectrum Engineering in 1994.

SITE PLAN AND GENERAL LAYOUT	
LEHIGH PROJECT	
SECTION 21, T15N, R12E	
JUDITH BASIN COUNTY, MONTANA	
STATE OF MONTANA, DEPARTMENT OF STATE LANDS ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION 1625 Bienville Avenue, Helena, Montana 59620	
SPECTRUM ENGINEERING	
Mining and Civil Engineers	
1413 4th Avenue North Billings, Montana 59101 Phone: 406-260-2412	DATE: December 1994 DRAWN BY: VAKH APPROVED BY: GWA REVISIONS NO. DATE BY SHEET NO. 4 of 7



NOTE

Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged



BASE MAP

Topography is of reconnaissance class and has not been field checked. Base topo is from a field survey completed by Spectrum Engineering in 1994.

WORK DESCRIPTION

The Contractor shall strip and stockpile the cover soil (410 CY) from the area to be excavated to create the emergency spillway. Excavate the waste material from behind the dam and from within the drainage above the dam as directed by the Owner. Transport this material (3,350 CY) to the main Lehigh site. The Contractor shall place the waste with the neutralized coal waste from the Lehigh Site and lime it in 6-inch (or less) lifts. Optionally the waste and calcium carbonate may be completely mixed using an Owner approved system. The Contractor would then place this neutralized waste with the neutralized coal waste from the Lehigh Site. Either method requires uniform mixing (incorporation) with equipment designed for such mixing in accordance with Technical Specification 301 and as specified on the Site Plans and the Special Provisions. The lime rate is 20 tons/acre/6" slice (83 tons total). Calcium carbonate shall meet the specifications set forth in this document and as specified in Technical Specification 301. Note that lime kiln dust shall not be used for neutralization of this soil. The Contractor shall limit the amount of dust lost to the environment during the mixing and replacing of the waste and during the use of the lime. Therefore, dust controlling measures shall be required during the course of this project. These measures include spray bars for the cold feed asphalt bin and any other precautions deemed necessary by the Owner.

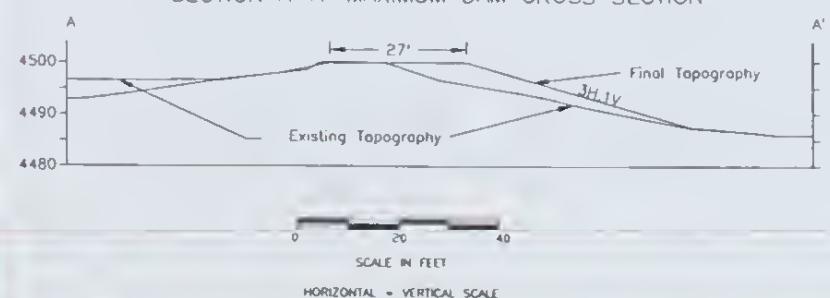
The Contractor shall excavate the emergency spillway (1,040 CY) as shown on the Site Plans. Use this excavated material to rebuild the dam to the contours shown on the Site Plans. The current dam has been breached. The material comprising this dam as it currently sits shall be removed, replaced and compacted by the Contractor to rebuild the lower portion of the dam to the new contours shown as directed by the Owner. The Contractor shall place and compact this material as per the excavated material. The Contractor shall place the material excavated from the emergency spillway in horizontal layers over the existing materials for the dam to the approximate contours shown.

The materials excavated from the spillway shall be deposited in uniform layers and compacted as per the text in Section III of the bid document. The distribution of materials shall be such that the compacted material will be homogeneous and free from lenses, pockets, streaks, or other imperfections. The Contractor shall place the material in horizontal layers not more than 6 compacted inches per lift. The excavating and placing operations shall be blended by the Contractor sufficiently to secure the best practical degree of compaction, impermeability and stability. Prior to and during compaction operations, the material shall have the optimum moisture content required for the purpose of compaction as determined by the Owner, and the moisture content shall be uniform throughout each layer.

Any rock encountered during the excavation of the emergency spillway shall be temporarily stockpiled and used as facing material on the upstream side of the dam following placement and compaction of the excavated material from the spillway.

Place the stockpiled cover soil over the dam and emergency spillway to a minimum depth of six inches. All of the stockpiled cover soil shall be placed by the Contractor over these areas. The Contractor shall install the erosion control mat (1,250 SY) on the downstream dam face and on the emergency spillway. The erosion control mat shall be North American Green SC150 or equivalent with 8" staples. This mat shall meet the minimum requirements of Section 340.00 of the Technical Specifications, Erosion Control Mat. Neutralize the cover soil underlying the previously excavated waste material (1.29 acres). The Contractor shall incorporate calcium carbonate at the rate of 20 tons/acre/6" slice (25.8 tons total). The calcium carbonate shall meet the minimum specifications of Technical Specification 301.00, Lime Products. Note that lime kiln dust shall not be used for neutralization of this soil. The Contractor shall revegetate all disturbed areas, including the access road (4.6 acres) in accordance with the Technical Specifications and as described within the bid document. All disturbed areas shall be drill seeded (110.4 pounds) and fertilized (598 pounds). Then mulch (13,800 pounds) shall be applied and crimped over all of the 4.6 vegetated acres.

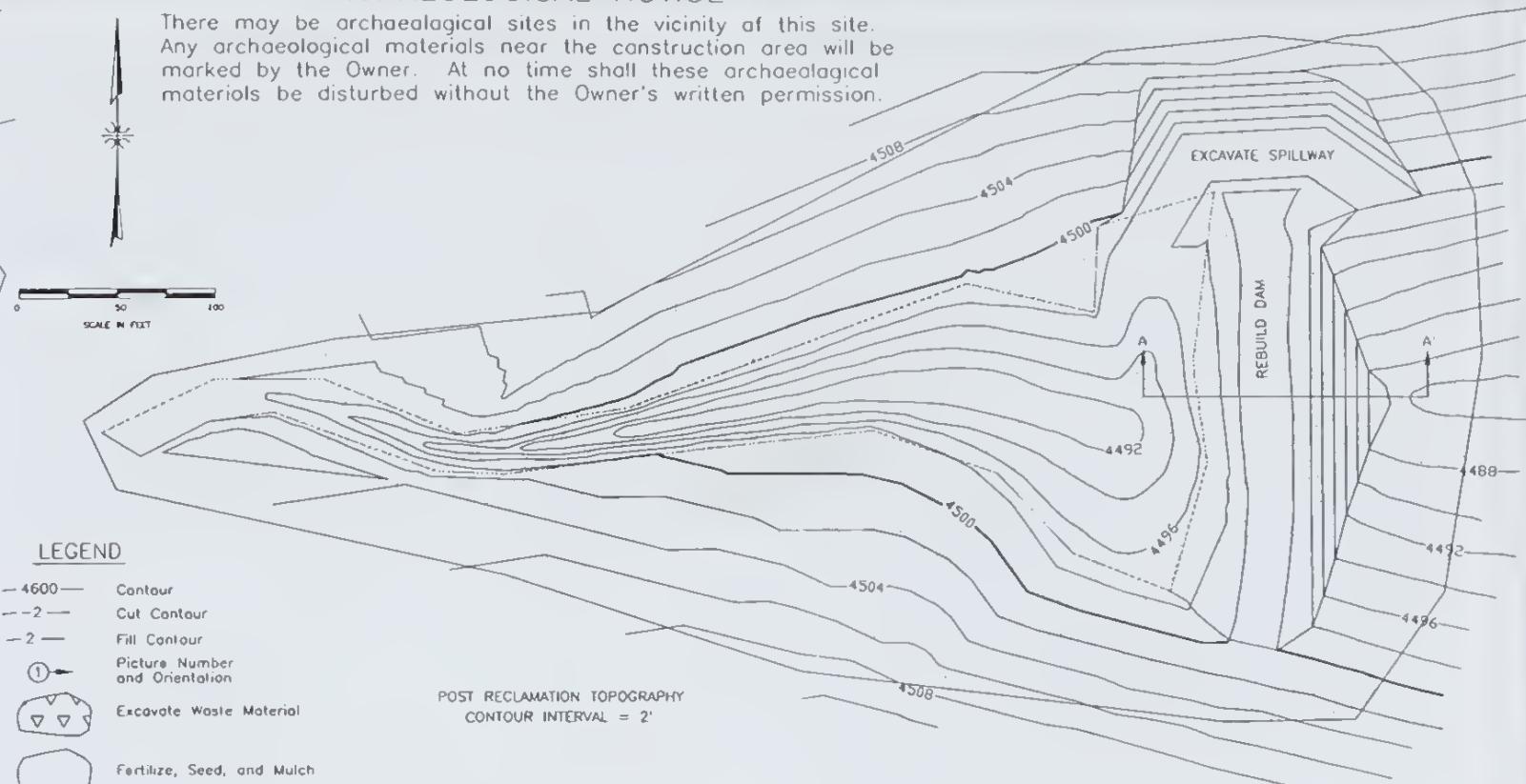
SECTION A-A' MAXIMUM DAM CROSS SECTION



ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

ARCHAEOLOGICAL NOTICE

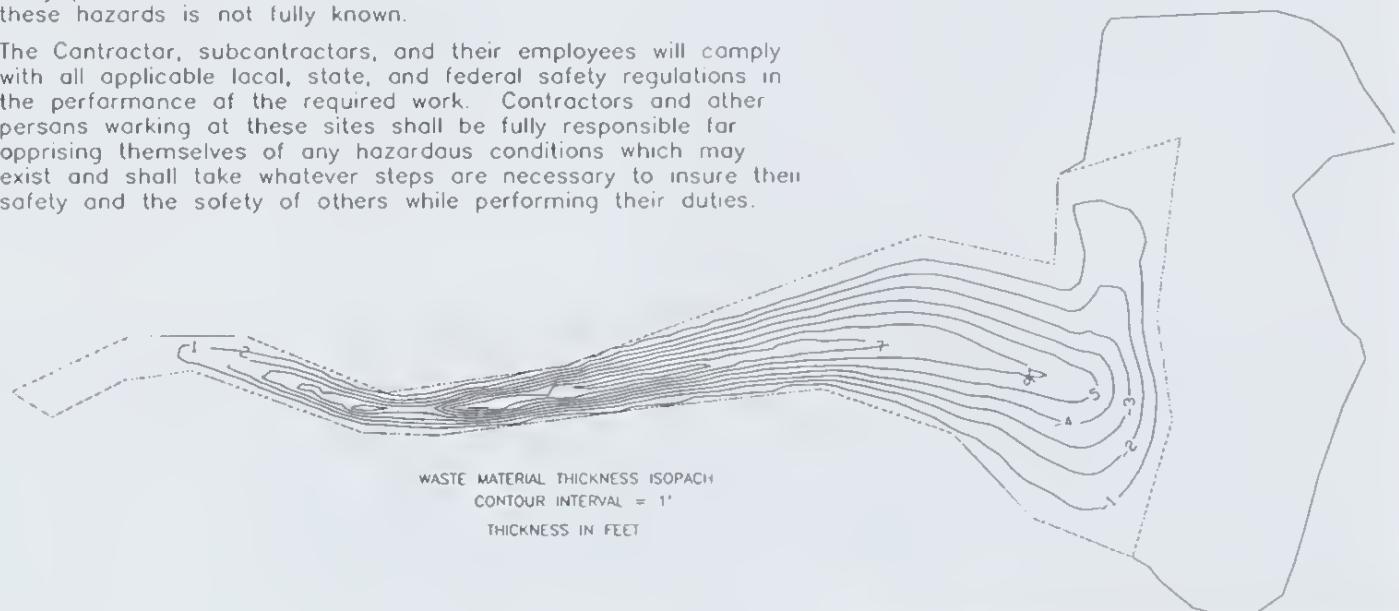
There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.



HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for oppressing themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.



STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

The site is located adjacent to a drainage which flows into Sage Creek 1/2 mile away. Using the SCS method, the hydrologic soil group is C and the runoff curve number (CN) is 74.

SITE PLAN AND GENERAL LAYOUT

STOCKWATER DAM SITE

SECTION 22, T15N, R12E

JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1025 Bevinch Avenue, Helena, Montana 59601

DATE: December 1994

DRAWN BY: VIO

APPROVED BY: Owner

REVISIONS: DATE: BY:

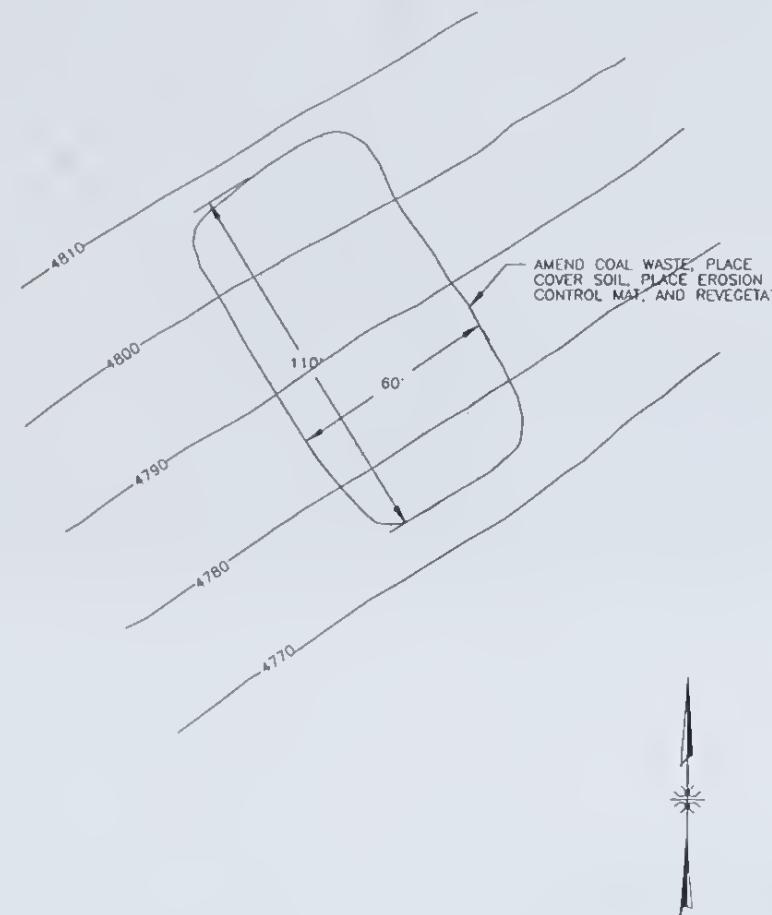
1413 4th Avenue North
Billings, Montana 59101
Phone: 406-260-2412

Sheet No. 6 of 7



HUGHES F SITE 1

NE 1/4 SEC. 32, R12E, T15N



NOTE
Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

WORK DESCRIPTION FOR HUGHES F SITE 1

The Contractor shall neutralize the coal waste area (60' x 110') with calcium carbonate. Lime shall be thoroughly mixed into the top 6 inches of the coal waste at the rate of 20 tons/acre/6" slice (3.03 tons total) in accordance with Technical Specification 301.00. Lime Products. The coal waste area shall then be covered with 6 inches of cover soil (125 CY) provided by the Contractor. The cover soil shall meet the requirements of Technical Specification 310.00, Cover Soil. Place the erosion control mat (735 SY) over the cover soiled area. The erosion control mat shall be North American Green SC150 or equivalent with 8" staples. The Contractor shall revegetate all disturbed areas including the access road as directed by the Owner (0.57 acres). All disturbed areas shall be drill seeded (13.68 pounds) and fertilized (74.1 pounds). Then mulch (1,710 pounds) shall be applied and crimped over all of the 0.57 vegetated acres.

HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for apprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

ARCHAEOLOGICAL NOTICE

There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.

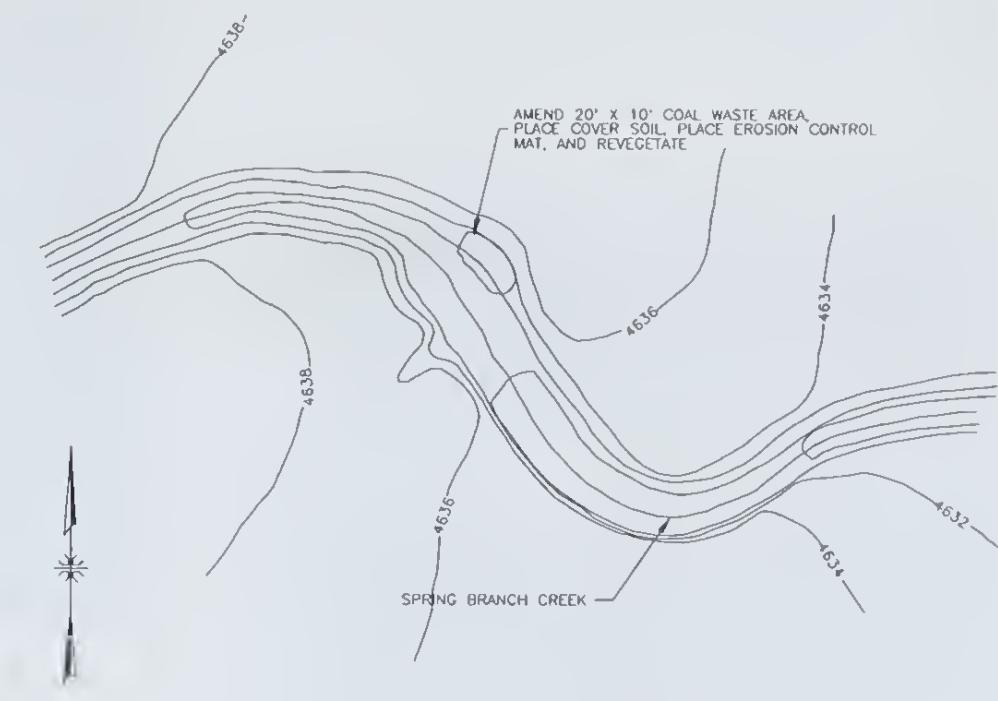
BASE MAP

Topography is of reconnaissance class and has not been field checked. Base topo is from a field survey done by Spectrum Engineering in 1994.

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

HUGHES F SITE 2

SE 1/4 SEC. 29, R12E, T15N



NOTE

Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

LEGEND

- 4600 — Contour
- Coal Waste Treatment Area

WORK DESCRIPTION FOR HUGHES F SITE 2

The Contractor shall neutralize the coal waste area (20' x 10') with calcium carbonate. Lime shall be thoroughly mixed into the top 6 inches of the coal waste at the rate of 20 tons/acre/6" slice (0.1 tons total) in accordance with Technical Specification 301.00. Lime Products. The coal waste area shall then be covered with 6 inches of cover soil (4 CY) provided by the Contractor. The cover soil shall meet the requirements of Technical Specification 310.00, Cover Soil. Place the erosion control mat (25 SY) over the cover soiled area. The erosion control mat shall be North American Green SC150 or equivalent with 8" staples. The Contractor shall revegetate all disturbed areas including the access road as directed by the Owner (0.01 acres). All disturbed areas shall be drill seeded (0.23 pounds) and fertilized (1.3 pounds). Then mulch (30 pounds) shall be applied and crimped over all of the 0.01 vegetated acres.

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

The site is located adjacent to Spring Branch of the North Fork of Sage Creek. Using the SCS method, the hydrologic soil group is C and the runoff curve number (CN) is 74.

SITE PLAN AND GENERAL LAYOUT

HUGHES F SITES 1 AND 2 SECTIONS 29 AND 32, T15N, R12E JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1025 Eleventh Avenue, Helena, Montana 59620

DATE	December 1994
DRAWN BY	VJH
APPROVED BY	DMR
REVISIONS	1
NO. DATE	BY
SHEET NO. 8 of 7	

SPECTRUM ENGINEERING
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412





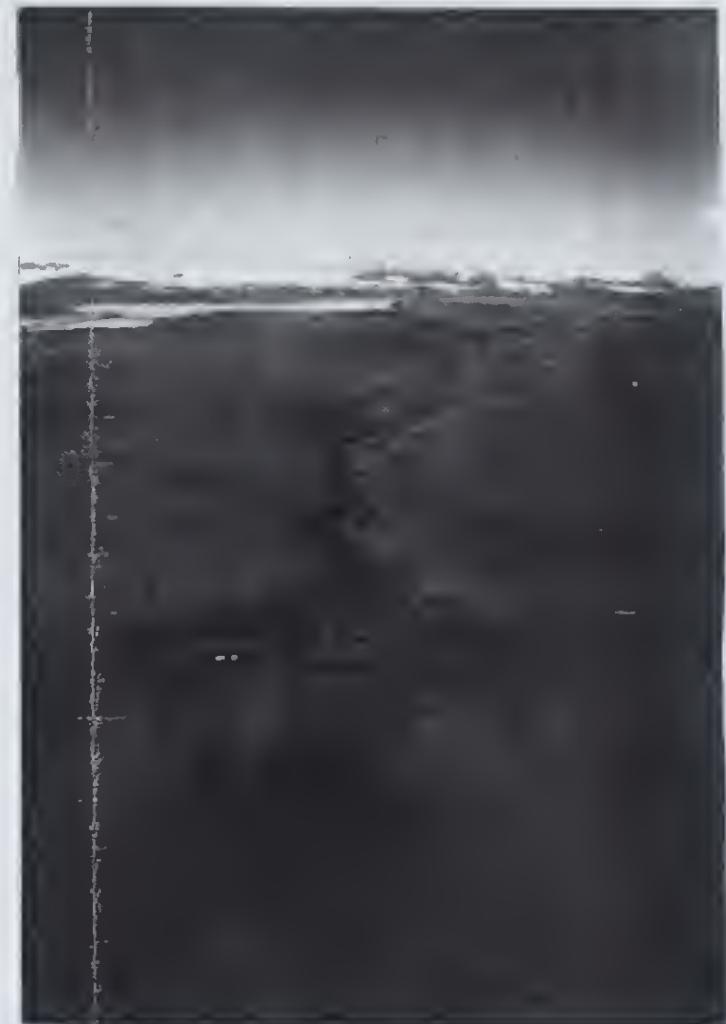
PICTURE 1 IS A HELICOPTER VIEW LOOKING WEST AT THE MAIN LEHIGH SITE.



PICTURE 2 IS A HELICOPTER VIEW LOOKING EAST AT THE MAIN LEHIGH SITE.



PICTURE 3 IS A HELICOPTER VIEW LOOKING SOUTH AT THE MAIN LEHIGH SITE.



PICTURE 4 IS A HELICOPTER VIEW LOOKING WEST AT THE STOCKWATER DAM SITE.

SITE PLAN AND GENERAL LAYOUT

LEHIGH PROJECT PHOTOGRAPHS

SECTION 21, T16N, R12E

JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 E. Evergreen Avenue, Helena, Montana 59601

SPECTRUM ENGINEERING
Mining and Civil Engineers

1413 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412

DATE	December 1994
DRAWN BY:	VAN
APPROVED BY:	SPR
REVISED:	NO
NO.	DATE
7	JY

Sheet No. 7 of 7

ATTACHMENT 6

AS-BUILT DRAWINGS

WORK DESCRIPTION

The Contractor shall strip, stockpile and replace cover soil (9025 CY) according to Subsection 310.00 of the Technical Specifications. Cover soil shall be stripped to within one-half inch of the underlying coal waste from the lime kiln dust treatment area shown on the site plan (6.5 acres). The Engineer will determine the depth of cover soil to be salvaged by staking salvage depth, prior to stripping. Care must be taken to prevent the underlying coal waste from being mixed with the salvaged cover soil. The Contractor shall stockpile cover soil as shown.

After cover soil slackpiling, the Contractor shall excavate the coal waste (44,500 CY) from the lime treatment area and neutralize with lime kiln dust as described below. Approximately 16,970 tons of this lime kiln dust will be stored at the site from a previous bid package. The Contractor shall haul an additional 2,381 tons of lime kiln dust from Continental Lime Inc. to the Lehigh project site during the course of this project as described in the bid document. The Contractor shall unload and incorporate this lime kiln dust into the coal waste as defined within this bid document. This lime kiln dust will not be required to be purchased by the Contractor for this bid package.

The required process of mixing the lime kiln dust with the coal waste is shown and described in Section III of this bid package. As such, the Contractor is referred to Section III of this bid package for a complete description. This description is not repeated here. Limiting the amount of dust lost to the environment during the crushing, mixing and replacing of the coal waste and for the use of the lime kiln dust is critical to the successful completion of this project. Therefore, dust controlling measures shall be required during the course of this project. These measures include spray bars for the pug mill and any other precautions deemed necessary by the Engineer. The Contractor shall remove the lime kiln dust from the storage trenches as necessary. The lime kiln dust hauled during the course of this project shall be incorporated into the coal waste as the lime kiln dust is hauled to the site. Therefore, this lime kiln dust will not be required to be placed in the storage trenches currently at the site. The rate of lime kiln dust mixing shall be 320-340 tons of lime kiln dust to 1,000 tons of coal waste. Following placement of the neutralized coal waste the Contractor shall rough grade the site to match the existing contours.

The Contractor shall replace the cover soil that was stripped and slackpiled overlying the coal waste following placement of the neutralized coal waste. The cover soil shall be placed in one six inch lift and neutralized with calcium carbonate. Calcium carbonate shall meet the specifications set forth in this document and as specified in Technical Specification 301. This neutralization requires uniform lime mixing with equipment designed for such mixing throughout the entire depth of the cover soil in accordance with Technical Specification 301 and as specified on the Site Plan and the Special Provisions. This incorporation of lime shall not extend below the cover soil depth. The lime rate is 60 tons/acre/6" slice. Care must be taken to avoid mixing the cover soil with the underlying neutralized coal waste. Tilling equipment for this operation shall incorporate the lime by operating parallel to the contour. Note that lime kiln dust shall not be used for neutralization of the cover soil.

All disturbed areas shall be drill seeded and fertilized. Then mulch shall be applied and crimped over all of the 19.6 vegetated acres.

The Contractor shall install 800 feet of silt fence along the bottom of the construction area as shown on the Site Plan.

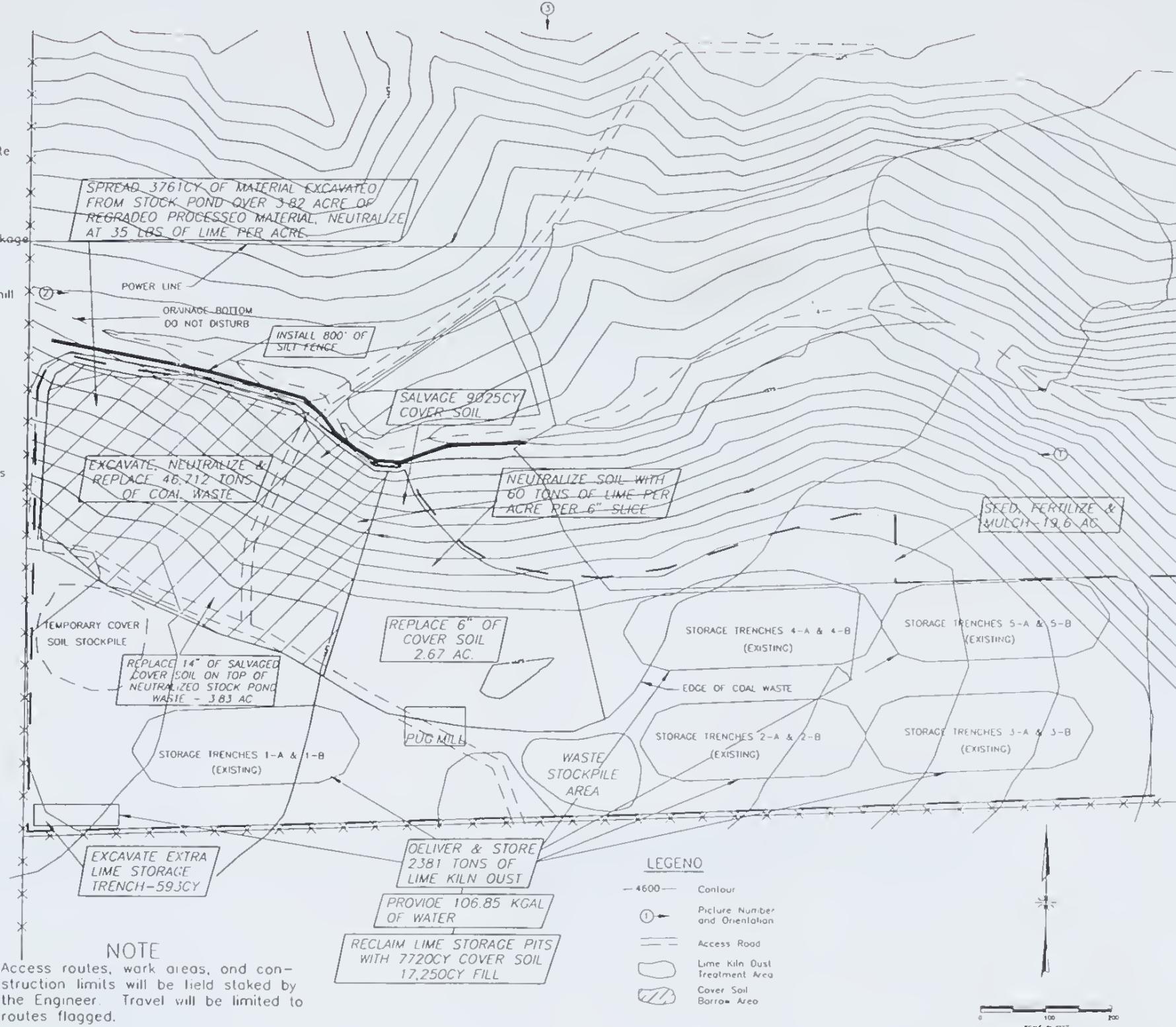
HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for apprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

ARCHAEOLOGICAL NOTICE

There may be archeological sites in the vicinity of this site. Any archeological materials near the construction area will be marked by the Owner. At no time shall these archeological materials be disturbed without the Owner's written permission.



STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

The site is located adjacent to a drainage which flows into Sage Creek 1 1/4 miles away. Using the SCS method, the hydrologic soil group is C and the runoff curve number (CN) is 74.

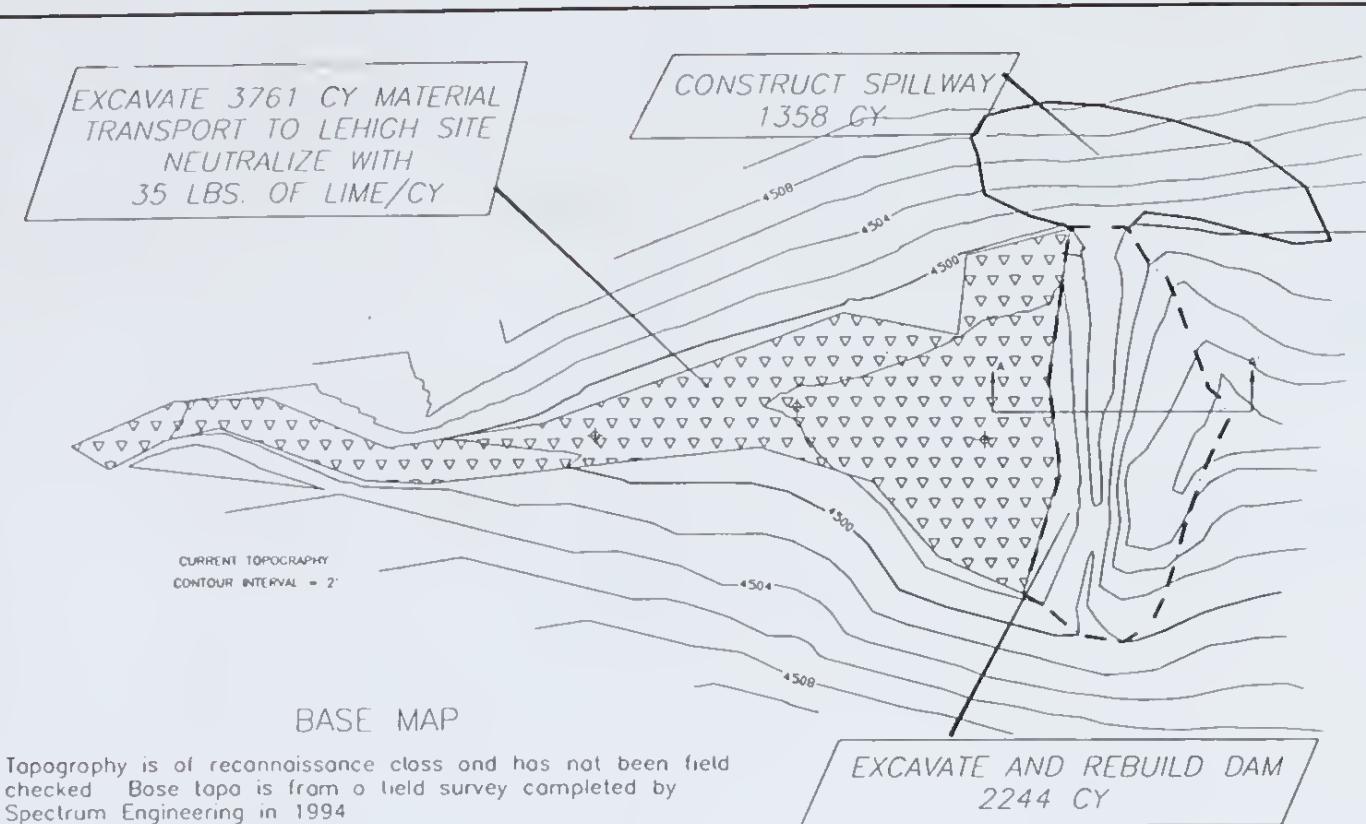
ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

BASE MAP

Topography is of reconnaissance class and has not been field checked. Base topo is a compilation of field survey done by Civil Design Solutions in 1992 and reverified by Spectrum Engineering in 1994.

AS-BUILT DRAWING

SITE PLAN AND GENERAL LAYOUT	
LEHIGH PROJECT	
SECTION 21, T15N, R12E	
JUDITH BASIN COUNTY, MONTANA	
STATE OF MONTANA, DEPARTMENT OF STATE LANDS ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION 1025 Eleventh Avenue, Helena, Montana 59620	
SPECTRUM ENGINEERING Mining and Civil Engineers	
1413 4th Avenue North Billings, Montana 59101 Phone: 406-250-2412	DATE: January 1994 DRAWN BY: J. G. GARR APPROVED BY: G. M. GARR REVISIONS: NO DATE: BY SHEET NO. 4 of 7



WORK DESCRIPTION

The Contractor shall strip and stackpile the cover soil (410 CY) from the area to be excavated to create the emergency spillway. Excavate the waste material from behind the dam and from within the drainage above the dam as directed by the Owner. Transport this material (3,761 CY) to the main Lehigh site. The Contractor shall place the waste with the neutralized coal waste from the Lehigh Site and lime it in 6-inch (or less) lifts.

The lime rate is 14 tons/acre/6" slice. Calcium carbonate shall meet the specifications set forth in this document and as specified in Technical Specification 301. Note that lime kiln dust shall not be used for neutralization of this soil. The Contractor shall limit the amount of dust lost to the environment during the mixing and replacing of the waste and during the use of the lime.

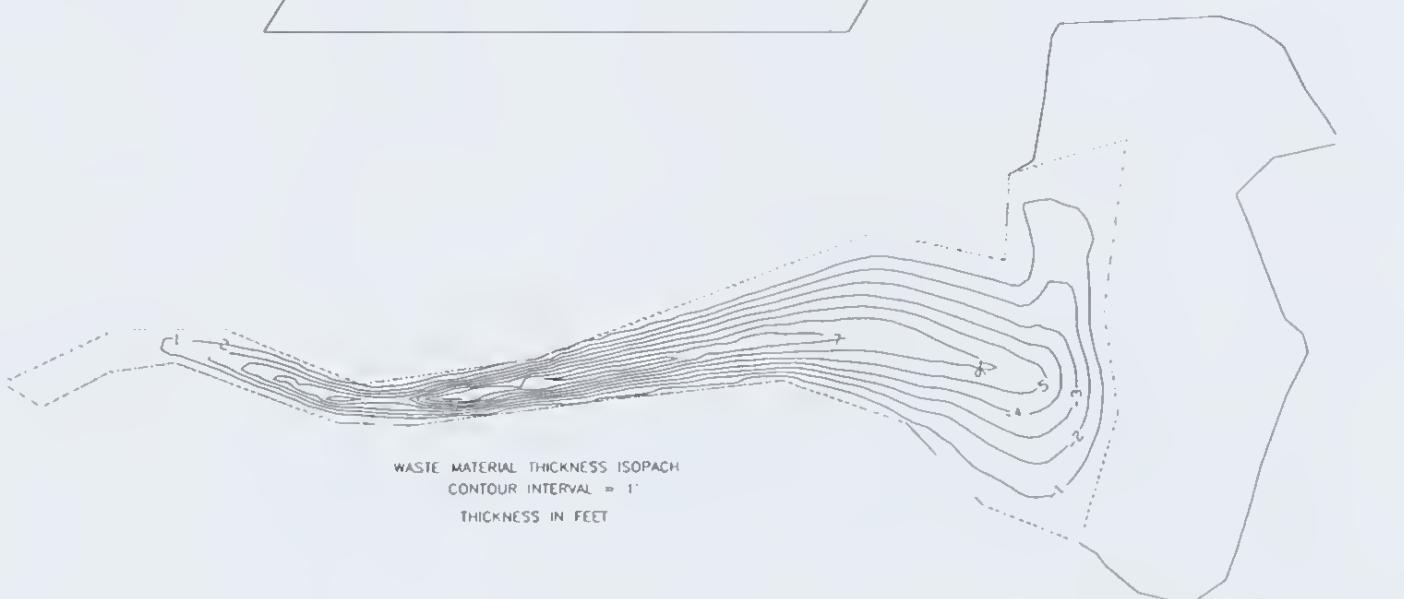
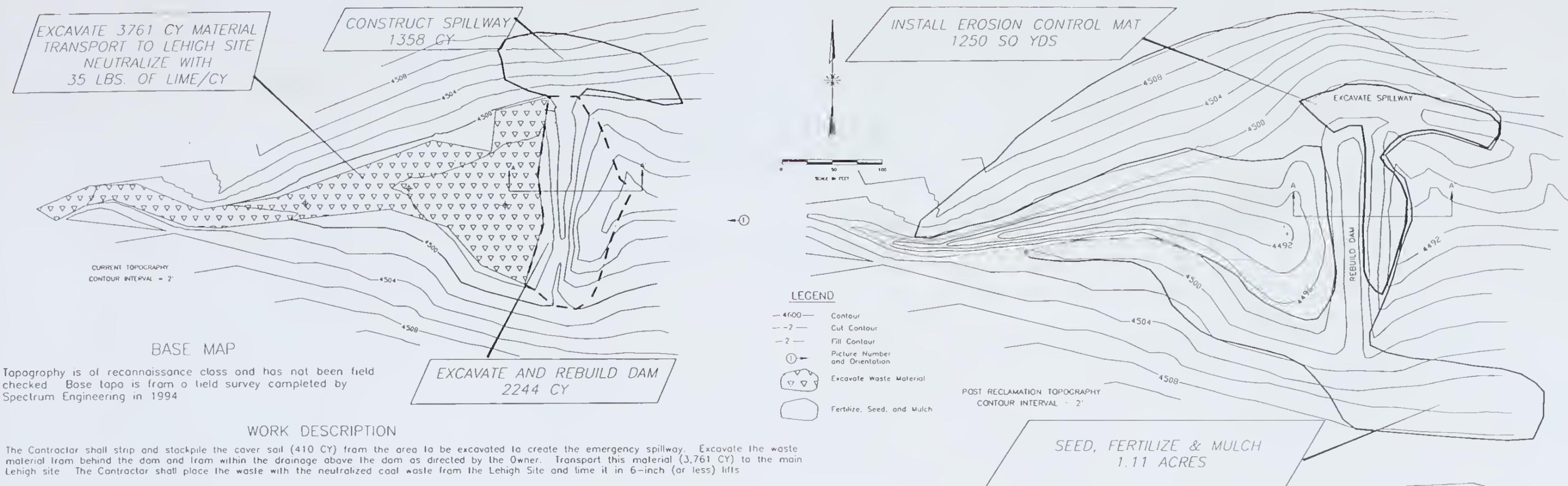
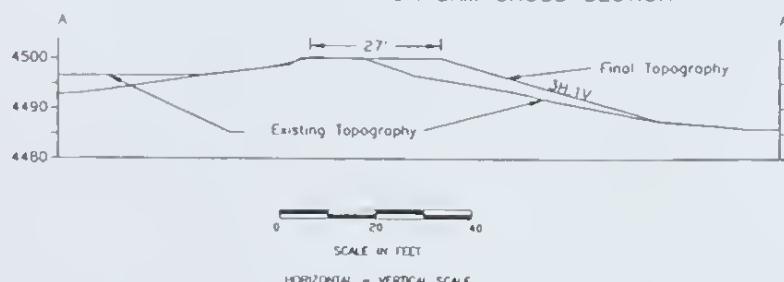
The Contractor shall excavate the emergency spillway (1,358 CY) as shown on the Site Plans. Use this excavated material to rebuild the dam to the contours shown on the Site Plans. The current dam has been breached. The material comprising this dam as it currently sits shall be removed, replaced and compacted by the Contractor to rebuild the lower portion of the dam to the new contours shown as directed by the Owner. The Contractor shall place and compact this material as per the excavated material. The Contractor shall place the material excavated from the emergency spillway in horizontal layers over the existing materials for the dam to the approximate contours shown.

The materials excavated from the spillway shall be deposited in uniform layers and compacted as per the text in Section III of the bid document. The distribution of materials shall be such that the compacted material will be homogeneous and free from lenses, pockets, streaks, or other imperfections. The Contractor shall place the material in horizontal layers not more than 6 compacted inches per lift. The excavating and placing operations shall be blended by the Contractor sufficiently to secure the best practical degree of compaction, impermeability and stability. Prior to and during compaction operations, the material shall have the optimum moisture content required for the purpose of compaction as determined by the Owner, and the moisture content shall be uniform throughout each layer.

Any rock encountered during the excavation of the emergency spillway shall be temporarily stockpiled and used as facing material on the upstream side of the dam following placement and compaction of the excavated material from the spillway.

Place the stockpiled cover soil over the dam and emergency spillway to a minimum depth of six inches. All of the stockpiled cover soil shall be placed by the Contractor over these areas. The Contractor shall install the erosion control mat (1,250 SY) on the downstream dam face and on the emergency spillway. The erosion control mat shall be North American Green SC150 or equivalent with 8" staples. This mat shall meet the minimum requirements of Section 340.00 of the Technical Specifications. Erosion Control Mat. Neutralize the cover soil underlying the previously excavated waste material (1.29 acres). The Contractor shall incorporate calcium carbonate at the rate of 20 tons/acre/6" slice (25.8 tons total). The calcium carbonate shall meet the minimum specifications of Technical Specification 301.00, Lime Products. Note that lime kiln dust shall not be used for neutralization of this soil. The Contractor shall revegetate all disturbed areas, including the access road (acres) in accordance with the Technical Specifications and as described within the bid document. All disturbed areas shall be drill seeded and fertilized. Then mulch shall be applied and crimped over the 1.11 vegetated acres.

SECTION A-A' MAXIMUM DAM CROSS SECTION



STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

The site is located adjacent to a drainage which flows into Sogee Creek 1/2 mile away. Using the SCS method, the hydrologic soil group is C and the runoff curve number (CN) is 74.

SITE PLAN AND GENERAL LAYOUT	
STOCKWATER DAM SITE	
SECTION 22, T15N, R12E	
JUDITH BASIN COUNTY, MONTANA	
STATE OF MONTANA, DEPARTMENT OF STATE LANDS ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION 1025 Eighth Avenue, Helena, Montana 59620	
DATE: January 1998	DRAWN BY: DM
APPROVED BY: GWA	REVISIONS
NO.:	DATE:
SPECTRUM ENGINEERING	
Mining and Civil Engineers	
1413 4th Avenue North Billings, Montana 59101 Phone: 406-249-2412	
SHEET NO. 8 of 7	



ATTACHMENT 7

LIME RATE ANALYSIS

LEHIGH PROJECT

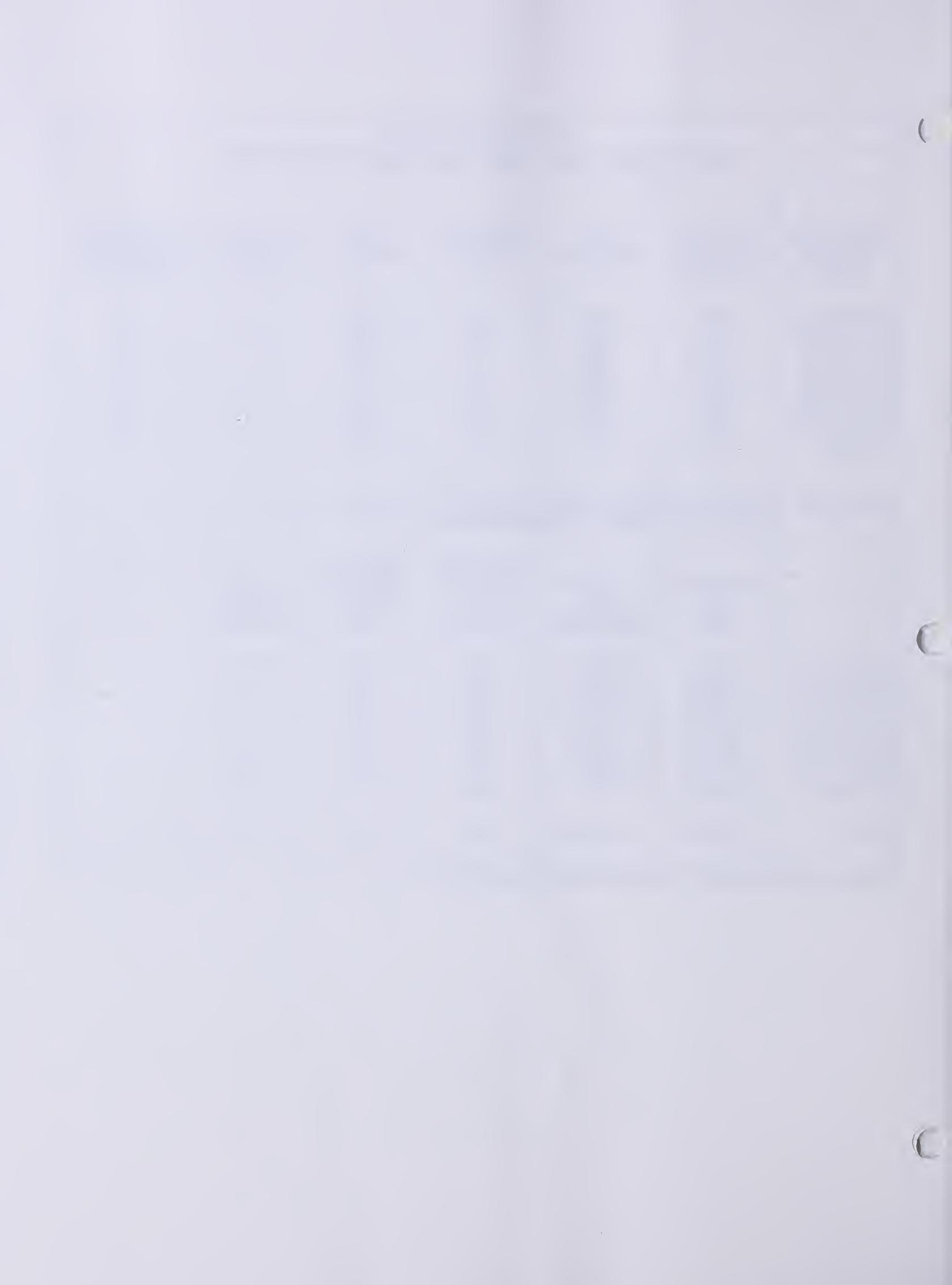
MIXED COAL AND LIME KILN DUST ANALYSES

COMPOSITE SAMPLE DATES	NEUTRAL. POTENTIAL T/1000 T	HNO3 SULFUR %	RESIDUAL SULFUR %	HCL SULFUR %	SMP LIME REQUIRED T/1000 T	OVERLIMING CALCULATION (TONS/1000 T)
7/26-28/1995	218	1.64	1.14	0.01	0.1	131
7/31-8/4/1995	250	1.02	1.10	0.01	0.1	184
8/7-11/1995	265	0.99	1.19	0.01	0.1	197
8/14-18/1995	208	1.61	1.21	0.04	0.1	121
8/21-25/1995	238	0.93	1.15	0.01	0.1	173
8/28-9/1/1995	225	1.16	1.13	0.01	0.1	154
9/5-8/1995	254	1.05	1.14	0.01	0.1	186

TOTAL LIME = [[NEUTRALIZATION POTENTIAL - (HNO₃ S + RESIDUAL S) 31.25 +
(HCL S) 23.44] + SMP LIME REQUIREMENT]

			AVERAGE LIME RATE	LIME RATE	
	TONS OF LIME USED	TONS OF COAL PROCESSED	LIME RATE DURING THE WEEK	WITHOUT EXCESS LIME	EXCESS TONS OF LIME USED
7/26-28/1995	1182.46	3555.44	333	201	467
7/31-8/4/1995	2566.64	7456.26	344	160	1373
8/7-11/1995	2313.79	6817.42	339	142	1344
8/14-18/1995	2268.47	6736.83	337	216	815
8/21-25/1995	2237.99	6607.30	339	165	1145
8/28-9/1/1995	2731.78	8062.22	339	185	1240
9/5-8/1995	2542.09	7476.75	340	154	1390
TOTAL	15843.22	46712.22	339	166	7774

Average overliming rate of 173 tons/1000 tons of coal (339-166).



LEHIGH PROJECT ACTUAL COAL LIMING SUMMARY SHEET

lime application rate (tons lime per 1000 tons coal)	extra lime mixing cost (cy)	field data daily total flow (tons lime + tons coal)	daily lime used (tons)	cumulative lime used (tons)	daily coal treated (tons)	cumulative coal treated (tons)	daily mixing cost	cumulative coal treated (cy)	extra lime mixing cost	cumulative extra lime mixing cost
26-jul	320	0.06	1,741.70	422.23	422.23	1,319.47	1,534.27	1,534.27	\$ 93.71	\$ 93.71
27-jul	340	0.12	1,550.00	393.28	815.51	1,156.72	2,476.19	2,879.29	\$ 164.30	\$ 258.01
28-jul	340	0.12	1,446.20	366.95	1,182.46	1,079.25	3,555.44	4,134.23	\$ 153.30	\$ 411.30
31-jul	350	0.15	1,941.50	503.35	1,685.81	1,438.15	4,993.59	5,806.50	\$ 255.34	\$ 666.65
1-aug	350	0.15	2,012.60	521.79	2,207.60	1,490.81	6,484.40	7,540.00	\$ 264.69	\$ 931.34
2-aug	350	0.15	300.00	77.78	2,285.37	222.22	6,706.63	258.40	\$ 7,798.40	\$ 39.46
2-aug	340	0.12	2,003.00	508.22	2,793.60	1,494.78	8,201.40	1,738.11	\$ 9,536.51	\$ 212.32
3-aug	340	0.12	1,721.30	436.75	3,230.35	1,284.55	9,485.95	1,493.67	\$ 11,030.18	\$ 1,183.11
4-aug	340	0.12	2,044.50	518.75	3,749.10	1,525.75	11,011.70	1,774.12	\$ 12,804.30	\$ 1,365.57
7-aug	340	0.12	1,774.00	450.12	4,199.22	1,323.88	12,335.58	1,539.40	\$ 14,343.70	\$ 216.72
8-aug	340	0.12	1,984.20	503.45	4,702.67	1,480.75	13,816.33	1,721.80	\$ 16,065.50	\$ 1,582.28
9-aug	340	0.12	1,438.90	365.09	5,067.77	1,073.81	14,890.13	1,248.61	\$ 17,314.11	\$ 216.72
10-aug	340	0.12	2,311.20	586.42	5,654.19	1,724.78	16,614.91	2,005.95	\$ 19,319.66	\$ 244.99
11-aug	335	0.11	757.00	189.96	5,844.15	567.04	17,181.95	659.35	\$ 19,979.01	\$ 70.47
11-aug	338	0.12	865.90	218.74	6,062.89	647.16	17,829.11	752.51	\$ 20,731.52	\$ 1,770.33
14-aug	335	0.11	2,265.50	568.50	6,631.39	1,697.00	19,526.11	1,973.26	\$ 22,704.78	\$ 210.91
15-aug	335	0.11	404.10	101.40	6,732.79	302.70	19,828.81	351.97	\$ 23,056.76	\$ 37.62
16-aug	338	0.12	1,250.00	315.77	7,048.56	934.23	20,763.04	1,086.31	\$ 24,143.07	\$ 2,133.17
16-aug	335	0.11	1,147.50	287.95	7,336.51	859.55	21,622.59	999.35	\$ 25,142.55	\$ 2,378.16
17-aug	338	0.12	2,190.10	553.25	7,889.76	1,636.85	23,259.44	1,903.31	\$ 27,045.86	\$ 106.83
18-aug	338	0.12	1,748.10	441.60	8,331.36	1,306.50	24,565.94	1,519.19	\$ 28,565.05	\$ 220.87
21-aug	338	0.12	535.32	2,119.10	8,866.68	1,583.78	26,149.72	1,841.61	\$ 30,406.65	\$ 2,784.49
22-aug	338	0.12	2,283.00	576.72	9,443.40	1,706.28	27,856.00	1,984.04	\$ 32,390.70	\$ 213.71
23-aug	338	0.12	1,400.00	353.66	9,797.06	1,046.34	28,902.34	1,216.67	\$ 33,607.37	\$ 230.24
23-aug	340	0.12	1,218.70	309.22	10,106.29	909.48	29,811.81	1,057.53	\$ 34,664.90	\$ 141.19
24-aug	340	0.12	1,750.00	444.03	10,550.32	1,305.97	31,117.78	1,518.57	\$ 36,183.47	\$ 129.18
25-aug	340	0.12	74.30	18.85	10,569.17	55.45	31,173.23	64.47	\$ 36,247.94	\$ 7.88
SUBTOTAL PAY REQUEST #2										
			10,569.17			31,173.23		36,247.94		\$ 4,322.25
TOTAL COAL LIMING COSTS										
			15,843.04			46,712.20		\$ 54,316.52		\$ 6,496.09
footnotes										
1.	Density of coal as per MSU =									
2.	Moisture content is by volume									
3.	Extra lime cost based on Item 3 from the Statement of Understanding between Spectrum Engineering and Weeden Construction dated August 8, 1995									

LABORATORY REPORT

TO: Bill Maehl
ADDRESS: Spectrum Engineering
1413 4th Ave. North
Billings, MT 59101

LAB NO.: 95-49332-3
DATE: 09/01/95 jmw

COAL ANALYSIS

Submitted 08/10/95

Sample No.	49332	49333
Location	07/31/95	08/04/95

Lime Requirement, T/1000 Tons (1)* <0.1 <0.1

Lime, % as CaCO₃ 21.8 25.0

Neut. Pot., T/1000 Tons (1) 218 250

Acid Pot., T/1000 Tons (1) 87 66

Acid/Base Pot., T/1000 Tons (1) 131 183

Total Sulfur, % 3.57 2.90

Hot H₂O Extractable Sulfur, % 0.79 0.78

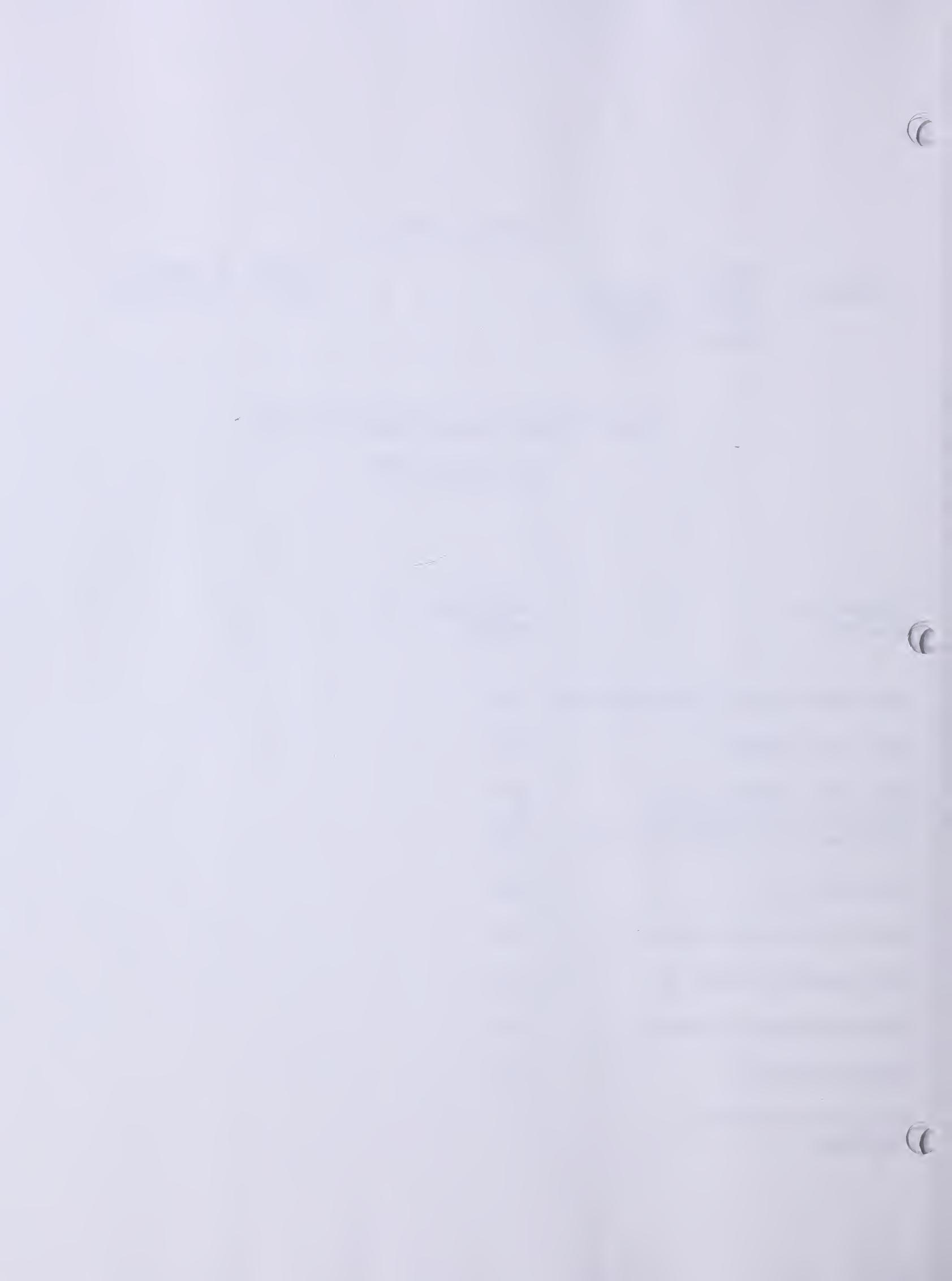
HCl Extractable Sulfur, % <0.01 <0.01

HNO₃ Extractable Sulfur, % 1.64 1.02

Residual Sulfur, % 1.14 1.10

(1) T CaCO₃/1000 Tons Soil

* SMP Buffer



LABORATORY REPORT

TO: Bill Maehl
ADDRESS: Spectrum Engineering
1413 4th Ave. North
Billings, MT 59101

LAB NO.: 95-49332-3
DATE: 09/01/95 jmw

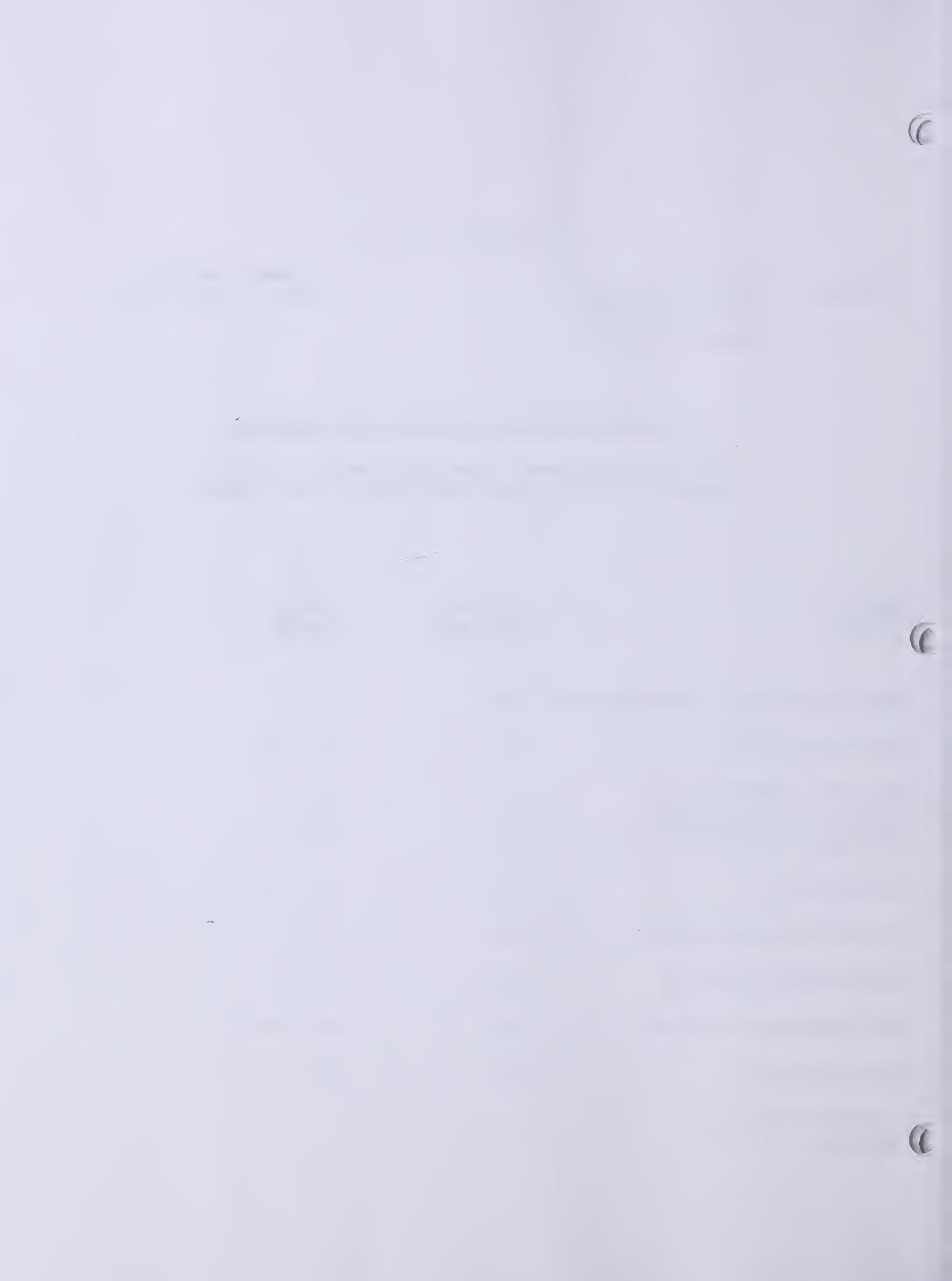
QUALITY ASSURANCE - CONTROL COAL ANALYSIS

This Quality Assurance - Control Coal Analysis was run with Lab Nos. 95-49332 through 95-49333 with the following results:

Sample No. Location	CONTROL ANALYSIS	TARGET RANGE
Lime Requirement, T/1000 Tons (1)*	<0.1	
Lime, % as CaCO ₃	4.7	3.5 – 7.3
Neut. Pot., T/1000 Tons (1)	47	32 – 75
Acid Pot., T/1000 Tons (1)	6	0 – 8
Acid/Base Pot., T/1000 Tons (1)	41	31 – 72
Total Sulfur, %	0.18	0.13 – 0.22
Hot H ₂ O Extractable Sulfur, %	<0.01	<0.01
HCl Extractable Sulfur, %	<0.01	<0.01
HNO ₃ Extractable Sulfur, %	0.16	0.01 – 0.20
Residual Sulfur, %	0.02	0.01 – 0.04

(1) T CaCO₃/1000 Tons Soil

* SMP Buffer



Lab Nos. 95-49332-4

Date 08/10/95

Received by Pam Fink

SAMPLE CONDITION QA/QC REPORT

This report provides information about the condition of the sample(s) and associated sample custody information on receipt at the laboratory.

Chain-of-custody form completed & signed N/A Comments: No chain of custody

Chain-of-custody seal properly placed N/A Comments: No seal

Chain of custody seal intact N/A Comments: _____

Signature Match, Chain-of-custody vs. Seal N/A Comments: _____

Sample received cold No Comments: _____

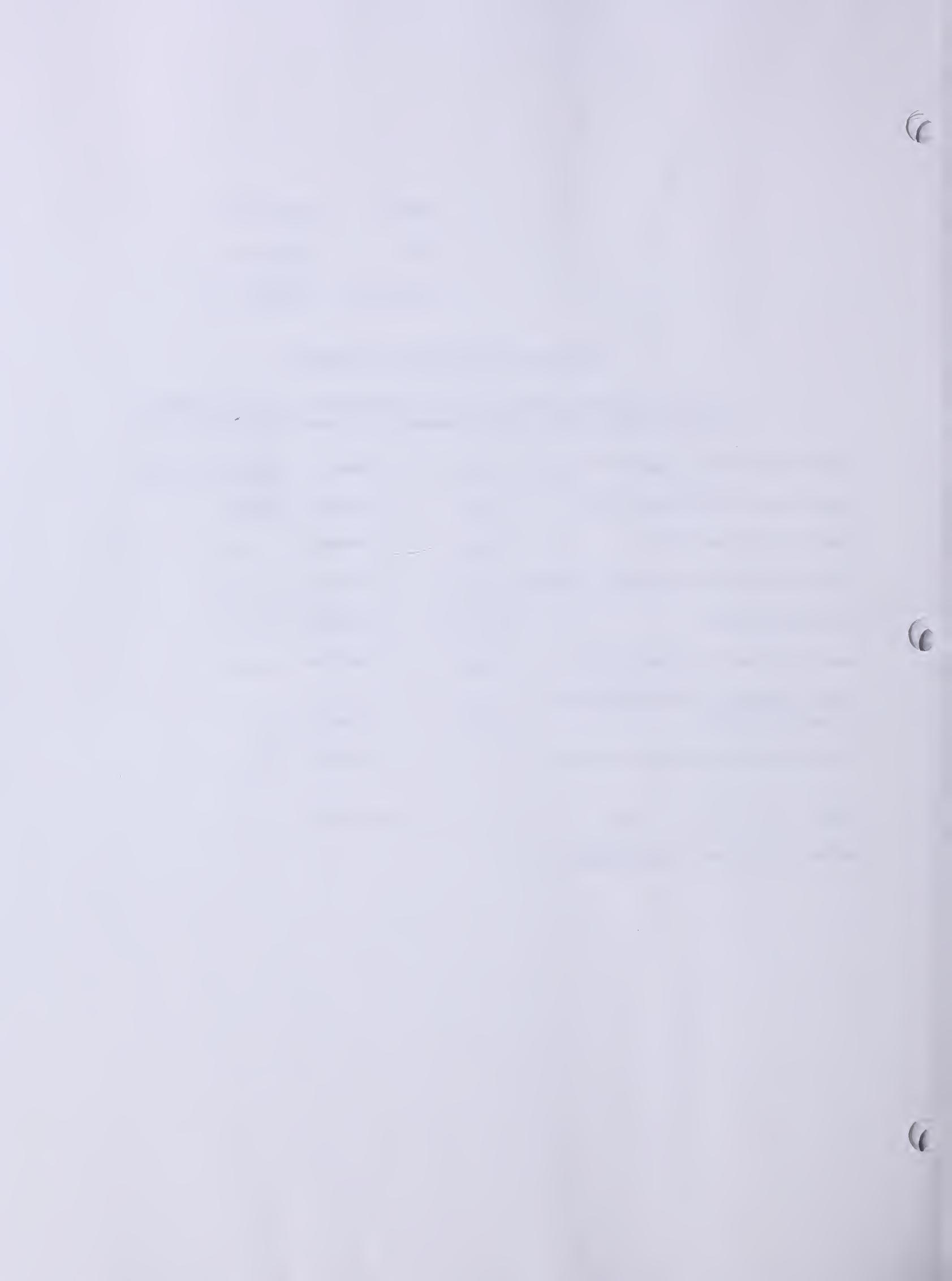
Samples received within holding time Yes Comments: _____

Samples received in proper containers and properly preserved Yes Comments: _____

Client notified about sample discrepancies _____ Comments: _____

Who: _____ By: _____ Date/Time: _____

Method of Shipment: Hand delivered



**ENERGY LABORATORIES, INC.**

P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Bill Maehl
ADDRESS: Spectrum Engineering
1413 4th Ave. North
Billings, MT 59101

LAB NO.: 95-57023-27
DATE: 10/16/95 lm

LIME KILN DUST ANALYSIS

Submitted 09/19/95
Additional analysis requested 10/04/95

Sample No.	57023	57024	57025	57026
Location	Aug. 7-11 1995	Aug. 14-18 1995	Aug. 21-25 1995	Aug. 28-31, Sept. 1, 1995
Lime Requirement, T/1000 Tons (2)*	<0.1	<0.1	<0.1	<0.1
Lime, % as CaCO ₃	26.5	20.8	23.8	22.5
Neut. Pot., T/1000 Tons (2)	265	208	238	225
Acid Pot., T/1000 Tons (2)	68	89	65	72
Acid/Base Pot., T/1000 Tons (2)	197	118	173	153
Total Sulfur, %	2.93	3.43	3.00	3.23
Hot H ₂ O Extractable Sulfur, %	0.75	0.57	0.92	0.94
HCl Extractable Sulfur, %	<0.01	0.04	<0.01	<0.01
HNO ₃ Extractable Sulfur, %	0.99	1.61	0.93	1.16
Residual Sulfur, %	1.19	1.21	1.15	1.13

(1) Saturated Paste Extract

(2) T CaCO₃/1000 Tons Soil

* SMP Buffer

**ENERGY LABORATORIES, INC.**

P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Bill Maehl
ADDRESS: Spectrum Engineering
1413 4th Ave. North
Billings, MT 59101

LAB NO.: 95-57023-27
DATE: 10/16/95 lm

LIME KILN DUST ANALYSIS

Submitted 09/19/95
Additional analysis requested 10/04/95

Sample No.	57027
Location	Sept. 5-8 1995
Lime Requirement, T/1000 Tons (2)*	<0.1
Lime, % as CaCO ₃	25.4
Neut. Pot., T/1000 Tons (2)	254
Acid Pot., T/1000 Tons (2)	68
Acid/Base Pot., T/1000 Tons (2)	185
Total Sulfur, %	2.83
Hot H ₂ O Extractable Sulfur, %	0.64
HCl Extractable Sulfur, %	<0.01
HNO ₃ Extractable Sulfur, %	1.05
Residual Sulfur, %	1.14

(1) Saturated Paste Extract

(2) T CaCO₃/1000 Tons Soil

* SMP Buffer

LABORATORY REPORT

TO: Bill Maehl
ADDRESS: Spectrum Engineering
1413 4th Ave. North
Billings, MT 59101

LAB NO.: 95-57023-27 dup
DATE: 10/16/95 lm

QUALITY ASSURANCE-DUPLICATE ANALYSIS

Submitted 09/19/95
Additional analysis requested 10/04/95

Sample No. 57027DUP
Location Sept. 5-8
1995

Lime Requirement, T/1000 Tons (2)* <0.1

Lime, % as CaCO₃ 26.1

Neut. Pot., T/1000 Tons (2) 261

Acid Pot., T/1000 Tons (2) 69

Acid/Base Pot., T/1000 Tons (2) 192

Total Sulfur, % 2.82

Hot H₂O Extractable Sulfur, % 0.62

HCl Extractable Sulfur, % <0.01

HNO₃ Extractable Sulfur, % 1.07

Residual Sulfur, % 1.13

(1) Saturated Paste Extract

(2) T CaCO₃/1000 Tons Soil

* SMP Buffer

LABORATORY REPORT

TO: Bill Maehl
ADDRESS: Spectrum Engineering
1413 4th Ave. North
Billings, MT 59101

LAB NO.: 95-57023-27
DATE: 10/16/95 lm

QUALITY ASSURANCE-CONTROL LIME KILN DUST ANALYSIS

This Quality Assurance-Control Lime Kiln Dust Analysis was run with your Lab Numbers 95-57023 through 95-57027 with the following results:

Sample No. Location	CONTROL ANALYSIS	TARGET RANGE
Lime Requirement, T/1000 Tons (2)*	<0.1	
Lime, % as CaCO ₃	5.0	3.5 – 7.3
Neut. Pot., T/1000 Tons (2)	50	32 – 75
Acid Pot., T/1000 Tons (2)	6	0 – 8
Acid/Base Pot., T/1000 Tons (2)	44	31 – 72
Total Sulfur, %	0.22	0.13 – 0.22
Hot H ₂ O Extractable Sulfur, %	0.04	0.01 – 0.04
HCl Extractable Sulfur, %	<0.01	<0.01
HNO ₃ Extractable Sulfur, %	0.14	0.01 – 0.20
Residual Sulfur, %	0.04	0.01 – 0.04

(1) Saturated Paste Extract

(2) T CaCO₃/1000 Tons Soil

* SMP Buffer

ATTACHMENT 8

PHOTOGRAPH AND SLIDE DESCRIPTIONS

LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
1	07-25-95	Contractor's equipment - Control house
2	07-25-95	Contractor's equipment - Generator/ trailer
3	08-04-95	Contractor's equipment - 6" water pump
4	06-13-95	Contractor's equipment - 8,000 gallon fuel tank
5	08-01-95	Contractor's equipment - Plastic and Berm Around Fuel Tank
6	06-12-95	Contractor's equipment - Prince Inc. unloading lime
7	08-04-95	Contractor's equipment - Kenworth water truck
8	07-25-95	Contractor's equipment - Dodge fuel truck
9	06-29-95	Contractor's equipment - 1961 Int R200 water truck
10	06-12-95	Contractor's equipment - 627 B scraper
11	06-12-95	Contractor's equipment - 627 B scraper
12	06-12-95	Contractor's equipment - D7-G dozer
13	07-19-95	Contractor's equipment - D6 C Cat dozer
14	06-19-95	Contractor's equipment - D8 K Cat dozer
15	07-25-95	Contractor's equipment - 966 F Cat loader
16	07-25-95	Contractor's equipment - 966 E Cat loader
17	07-28-95	Contractor's equipment - 921 B Case loader
18	07-25-95	Contractor's equipment - Grizzly on front of loader
19	07-25-95	Contractor's equipment - JD 410 B Backhoe/ loader
20	07-25-95	Contractor's equipment - JD 90 skid steer loader
21	06-19-95	Contractor's equipment - Hitachi EX200 excavator
22	07-24-95	Contractor's equipment - EL 240 C excavator
23	07-25-95	Contractor's equipment - Pug mill
24	07-25-95	Contractor's equipment - Single deck screen

LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
25	07-25-95	Contractor's equipment - Two bin feeder
26	07-25-95	Contractor's equipment - Trap/ conveyor
27	07-25-95	Contractor's equipment - Stacking conveyor
28	07-25-95	Contractor's equipment - 5500 gallon water tank
29	07-28-95	Contractor's equipment - Oversized lime
30	08-03-95	Contractor's equipment - Repair of screen all
31	08-15-95	Contractor's equipment - Hovis 10" conveyor
32	08-24-95	Contractor's equipment - Screen in place
33	11-09-95	Contractor's equipment - JD tractor
34	09-11-95	Contractor's equipment - 9600 Ford tractor
35	11-13-95	Contractor's equipment - Haybuster
36	09-11-95	Contractor's equipment - 14' Wishek disk
37	11-09-95	Contractor's equipment - JD seed drill
38	11-09-95	Contractor's equipment - Rejected crimper
39	11-14-95	Contractor's equipment - Crimper
40	04-08-94	Lehigh pre-construction - Aerial view looking south at the site
41	04-08-94	Lehigh pre-construction - Aerial view looking southeast at the site
42	04-08-94	Lehigh pre-construction - Aerial view looking east at the site
43	04-08-94	Lehigh pre-construction - Aerial view looking south at the site
44	04-08-94	Lehigh pre-construction - Aerial view looking west at the stockwater dam
45	04-08-94	Lehigh pre-construction - Aerial view looking northeast at the stockwater pond and dam
46	04-08-94	Lehigh pre-construction - Aerial view looking northeast at the site

LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
47	06-12-95	Lehigh construction - Stripping cover soil
48	06-12-95	Lehigh construction - Stripping cover soil
49	06-12-95	Lehigh construction - Prince Inc. unloading lime
50	06-13-95	Lehigh construction - Excavation coal slack (work area)
51	06-13-95	Lehigh construction - Dozer & scraper working at test pit #1
52	06-13-95	Lehigh construction - Stripping cover soil
53	06-14-95	Lehigh construction - Cover soil
54	06-15-95	Lehigh construction - Filling area for pug mill
55	06-15-95	Lehigh construction - Cover soil removed from construction area
56	06-15-95	Lehigh construction - Cover soil pile
57	06-15-95	Lehigh construction - Stockpile from work area pit east end
58	06-15-95	Lehigh construction - Excavation coal slack on west end
59	06-19-95	Lehigh construction - 800 feet of silt fence installed
60	06-19-95	Lehigh construction - Unloading kiln dust lime
61	07-06-95	Lehigh construction - Lehigh pre-construction extra pit
62	07-06-95	Lehigh construction - Excavation of extra pit
63	07-11-95	Lehigh construction - Dozer coal slack from northwest corner
64	07-11-95	Lehigh construction - Removing coal slack from west end
65	07-18-95	Lehigh construction - Drying out coal slack
66	07-18-95	Lehigh construction - Coal slack excavated out of west end
67	07-19-95	Lehigh construction - Removing wet coal slack with D-6
68	07-24-95	Lehigh construction - Excavation cover soil
69	07-26-95	Lehigh construction - Set-up with lime processing
70	07-26-95	Lehigh construction - Set-up with lime processing

LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
71	07-26-95	Lehigh construction - Set-up with lime processing
72	07-26-95	Lehigh construction - Set-up with lime processing
73	07-26-95	Lehigh construction - Set-up with lime processing
74	07-28-95	Lehigh construction - Read Screen-All
75	07-28-95	Lehigh construction - Processed lime and coal slack pile
76	07-28-95	Lehigh construction - Lime pit
77	07-31-95	Lehigh construction - Hauling processed material/ loader
78	07-31-95	Lehigh construction - Hauling precessed material/ loader
79	08-03-95	Lehigh construction - Processed material
80	08-08-95	Lehigh construction - Processed material on west end
81	08-09-95	Lehigh construction - Excavation of coal slack
82	08-09-95	Lehigh construction - Drying out wet coal slack
83	08-09-95	Lehigh construction - Removing lime out of pit 4A
84	08-09-95	Lehigh construction - Screen lime and coal operation
85	08-09-95	Lehigh construction - Pug mill mixing
86	08-10-95	Lehigh construction - Stripping cover soil
87	08-11-95	Lehigh construction - Excavation extra wet coal slack
88	08-14-95	Lehigh construction - Excavation road at lime pit 1B
89	08-15-95	Lehigh construction - Clean-up trenches
90	08-15-95	Lehigh construction - Screen and auger set up
91	08-18-95	Lehigh construction - Progress as of this date
92	08-18-95	Lehigh construction - Progress as of this date
93	08-22-95	Lehigh construction - Truck with load of lime at pit
94	08-22-95	Lehigh construction - Loader with processed coal slack and lime

LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
95	08-28-95	Lehigh construction - Backfilling pit #2 B
96	08-30-95	Lehigh construction - Pit #2 Backfilled
97	08-30-95	Lehigh construction - Backfilling pit #4 A and B
98	08-31-95	Lehigh construction - Hard lime in bottom of pit 1 A
99	08-31-95	Lehigh construction - Pit 4 A and B backfilled
100	09-05-95	Lehigh construction - Backfilling pit #3 B
101	09-05-95	Lehigh construction - Lime pit #5 A empty
102	09-05-95	Lehigh construction - Lime pit #3 B filled
103	09-05-95	Lehigh construction - Filling lime pit #5 A
104	09-06-95	Lehigh construction - Backfilling pit #3 A
105	09-07-95	Lehigh construction - Processed material pile
106	09-07-95	Lehigh construction - Pit #5 A backfilled
107	09-07-95	Lehigh construction - Backfilling pit #1 A
108	09-08-95	Lehigh construction - Pit #1 A backfilled
109	09-09-95	Lehigh construction - Coal slack pile
110	09-09-95	Lehigh construction - Backfilling extra pit on south west end
111	09-11-95	Lehigh construction - Pit #5 B backfilled
112	09-11-95	Lehigh construction - Pit #1 B backfilled
113	09-12-95	Lehigh construction - Coal slack pile removed
114	09-12-95	Lehigh construction - Spreading cover soil
115	09-13-95	Lehigh construction - Cover soil back on pit #1
116	09-15-95	Lehigh construction - Blowing lime on Lehigh site
117	09-15-95	Lehigh construction - Blowing lime on Lehigh site
118	09-15-95	Lehigh construction - Lime spread on Lehigh site

**LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
119	09-15-95	Lehigh construction - Disking lime on Lehigh site
120	09-15-95	Lehigh construction - Spreading cover soil on Lehigh site
121	09-19-95	Lehigh construction - Spread lime on 1st 7" cover soil lift on backfill area
122	09-19-95	Lehigh construction - Disk lime and 1st 7" lift on backfill area
123	09-20-95	Lehigh construction - Spread lime on 1st 7" cover soil lift on backfill area
124	09-20-95	Lehigh construction - Lime layer before disking
125	09-20-95	Lehigh construction - Disk lime into 1st 7" lift on backfill area
126	09-20-95	Lehigh construction - Picking up cover soil for top lift
127	09-20-95	Lehigh construction - Laying final cover soil lift on backfill area
128	09-21-95	Lehigh construction - Disk lime in bottom half of backfill area
129	09-22-95	Lehigh construction - Spread lime over top half of backfill area
130	09-22-95	Lehigh construction - Laying cover soil lift over 3rd acre of backfill area
131	09-25-95	Lehigh construction - Spread lime over final section of backfill area
132	09-25-95	Lehigh construction - Laying final cover soil lift in saddle area
133	09-25-95	Lehigh construction - Laying final cover soil lift in saddle between area
134	09-26-95	Lehigh construction - Disk lime in cover soil on bottom slope rock pit Area B
135	09-27-95	Lehigh construction - Disk lime in cover soil east of backfill area
136	09-28-95	Lehigh construction - Disk lime in cover soil on final lift on backfill area
137	09-29-95	Lehigh construction - Spread lime over slope area - middle of section of backfill area

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LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
138	09-30-95	Lehigh construction - Spreading final load of lime - disking project area
139	09-30-95	Lehigh construction - Spreading final load of lime - disking project area
140	09-30-95	Lehigh construction - Finish disking project area - waiting on seeding operation
141	11-09-95	Lehigh construction - Straw bales stockpiled for mulch
142	11-09-95	Lehigh construction - Fertilizer on ground
143	11-09-95	Lehigh construction - Disking fertilizer into the ground
144	11-11-95	Lehigh construction - Seeding
145	11-11-95	Lehigh construction - Seeded
146	11-11-95	Lehigh construction - Seeded
147	11-14-95	Lehigh construction - Mulching along creek
148	11-14-95	Lehigh construction - Mulch in progress
149	11-15-95	Lehigh construction - Mulch along south edge near gate
150	11-14-95	Lehigh construction - Crimping
151	11-15-95	Lehigh construction - Crimping along northwest slope
152	11-15-95	Lehigh construction - Mulching progress west end
153	11-15-95	Lehigh construction - Well crimped area
154	06-12-95	Stock pond site - Pre-construction dam site
155	06-12-95	Stock pond site - Pre-construction dam site
156	06-12-95	Stock pond site - Pre-construction dam site
157	06-19-95	Stock pond site - Haul road to dam site
158	06-12-95	Stock pond site - Draining water out of dam
159	06-20-95	Stock pond site - Pre-construction dam site

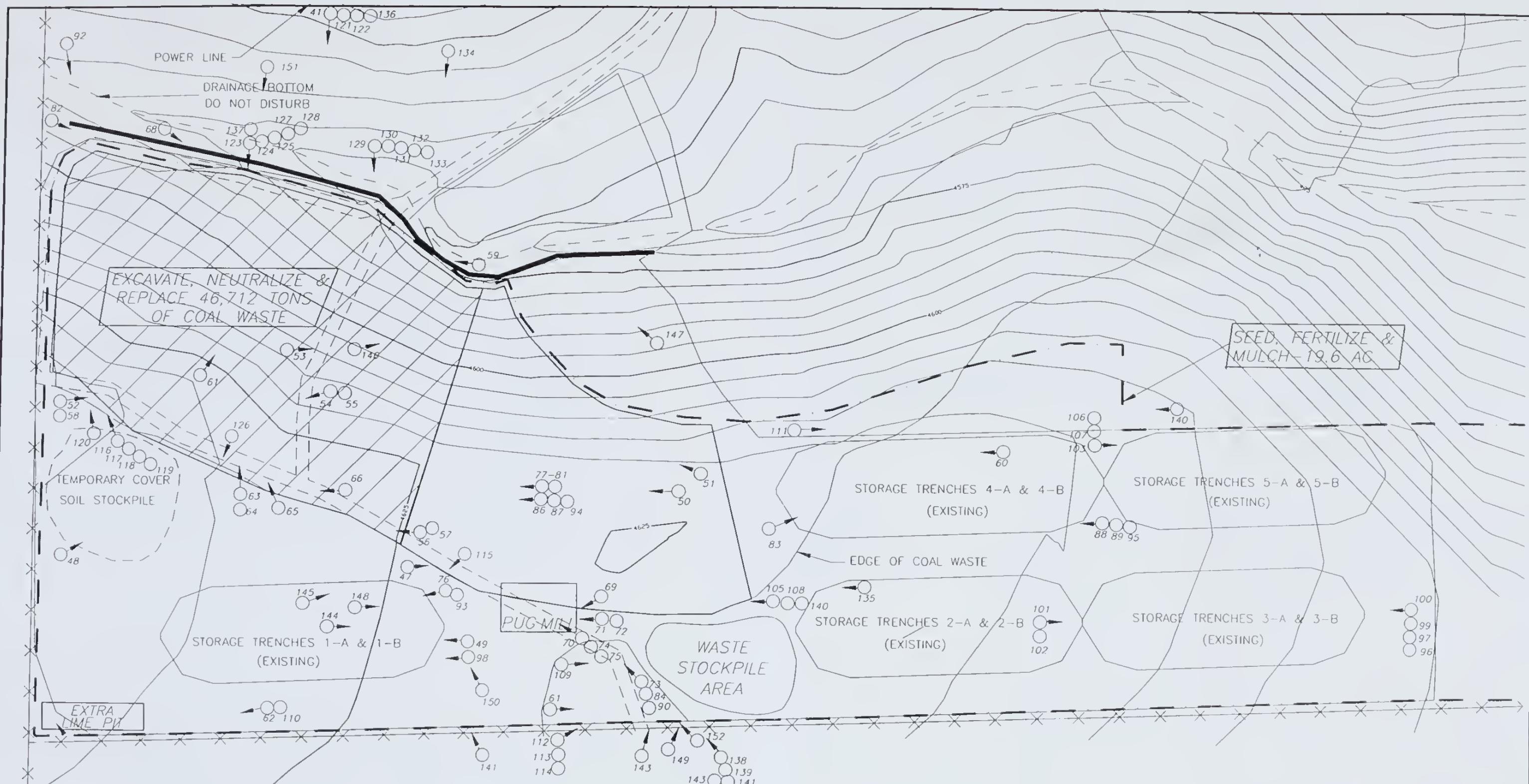
LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
160	06-20-95	Stock pond site - Excavation waste material dam site
161	06-20-95	Stock pond site - Excavation waste material dam site
162	06-21-95	Stock pond site - Excavation waste material dam site
163	06-22-95	Stock pond site - Excavation waste material dam site
164	06-26-95	Stock pond site - Excavation waste material dam site
165	06-28-95	Stock pond site - Excavation waste material dam site
166	06-28-95	Stock pond site - Excavation stockwater dam area
167	06-28-95	Stock pond site - Excavation stockwater dam area
168	08-28-95	Stock pond site - Covering processed material/ stockwater dam material
169	06-28-95	Stock pond site - Excavation of core trench
170	06-28-95	Stock pond site - Rebuilding of stockwater dam
171	06-29-95	Stock pond site - Compaction with 627 Cat scraper
172	06-29-95	Stock pond site - Cover soil on top of dam
173	06-29-95	Stock pond site - Leveling stockwater dam area
174	06-29-95	Stock pond site - Stockwater dam
175	06-29-95	Stock pond site - Stockwater dam
176	06-29-95	Stock pond site - Stockwater dam
177	06-29-95	Stock pond site - Silt fence below stockwater dam
178	09-15-95	Stock pond site - Lime spread on stockwater site
179	09-15-95	Stock pond site - Lime spread on stockwater site
180	11-11-95	Stock pond site - Seeding stock pond
181	11-11-95	Stock pond site - Seeding stock pond
182	11-15-95	Stock pond site - Mulching stock pond site



**LEHIGH PROJECT
PHOTO & SLIDE DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
183	11-15-95	Stock pond site - Crimping stock pond and dam
184	11-14-95	Stock pond site - Erosion control mat on dam face
185	11-15-95	Stock pond site - Install erosion control mat on dam spillway
186	11-15-95	Stock pond site - Install erosion control mat on dam spillway
187	11-15-95	Stock pond site - Dam spillway complete
188	11-15-95	Stock pond site - Dam spillway complete
189	08-14-95	Hughes F sites - Excavation road at lime pit #1 B
190	06-14-95	Hughes F site 2 - Pre-construction
191	06-14-95	Hughes F site 2 - Complete
192	06-14-95	Hughes F site 1 - Pre-construction
193	06-14-95	Hughes F site 1 - Working in lime
194	06-14-95	Hughes F site 1 - Complete
195	06-14-95	Hughes F site 1 - Complete



NOTE

Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

The site is located adjacent to a drainage which flows into Sog Creek 1 1/4 miles away. Using the SCS method, the hydrologic soil group is C and the runoff curve number (CN) is 74.

LEGEND

Legend for the site plan:

- Contour
- Picture Number and Orientation
- Access Road
- Lime Kiln Dust Treatment Area
- Cover Soil Borrow Area
- Construction Photo

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

BASE MAP

Topography is of reconnaissance class and has not been field checked. Base topo is a compilation of field survey done by Civil Design Solutions in 1997 and reverified by Spectrum Engineering in 1994.

PHOTO INDEX DRAWING

SITE PLAN AND GENERAL LAYOUT

LEHIGH PROJECT

SECTION 21 T15N R12E

JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1025 Seventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers

1413 4th Avenue North
Billings, Montana 59101
Phone: 406-249-2412

DATE	January 1998
DRAWN BY	do
APPROVED BY	do
REVISIONS	do
NO.	do
DATE	do

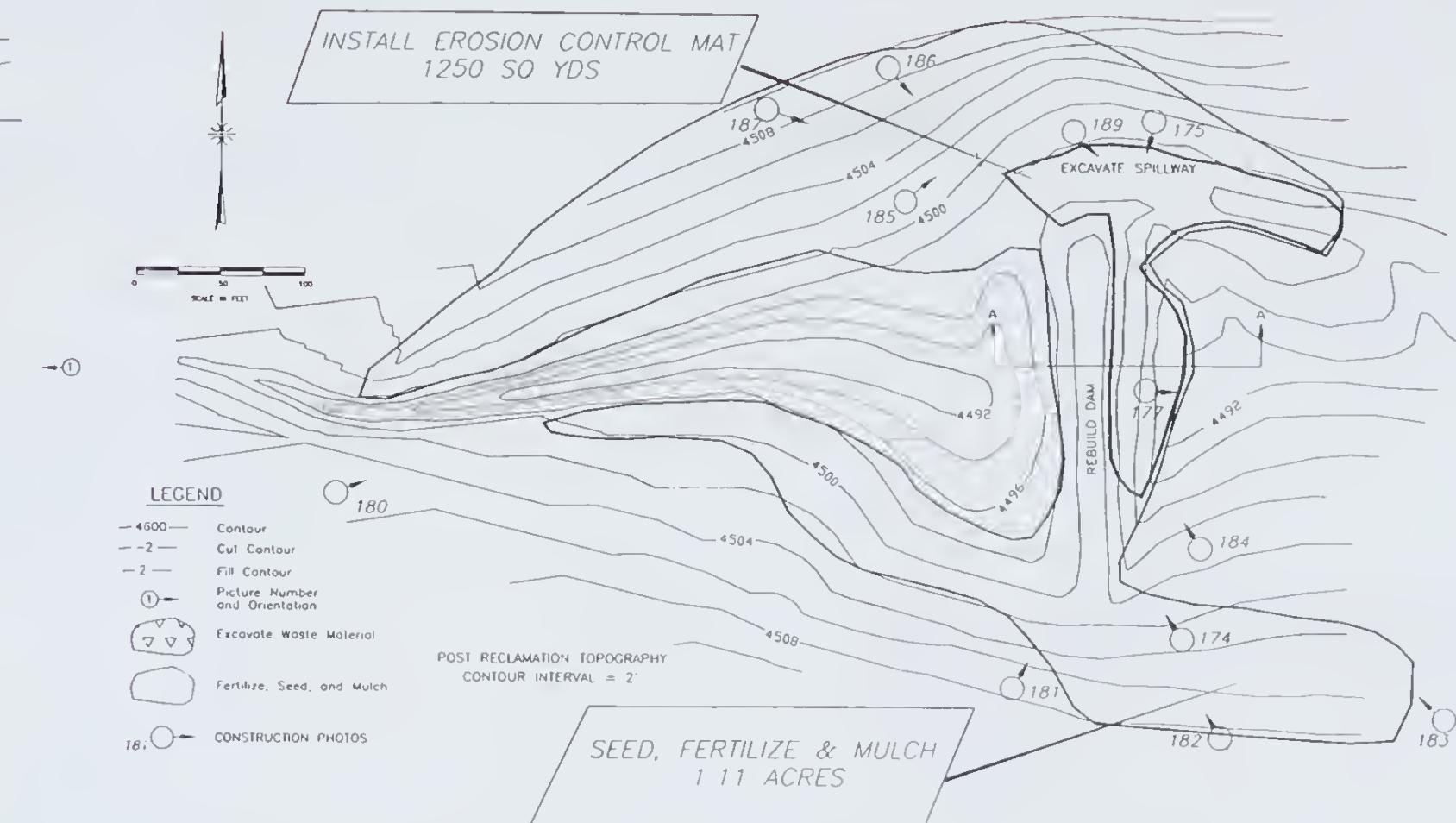
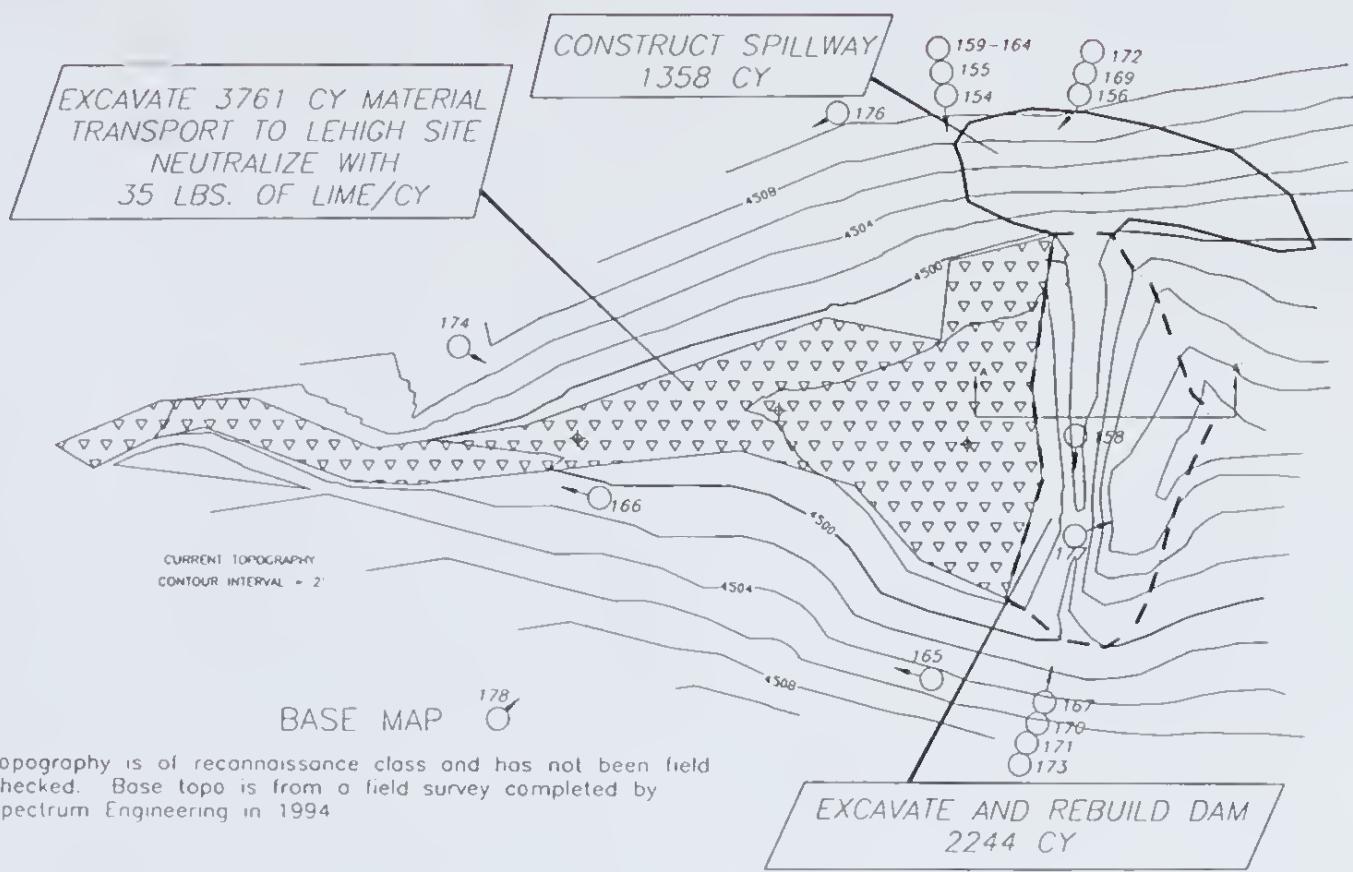


PHOTO INDEX DRAWING

SITE PLAN AND GENERAL LAYOUT

STOCKWATER DAM SITE

SECTION 22, T15N, R12E

JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
1025 E 4th Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers
1025 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412

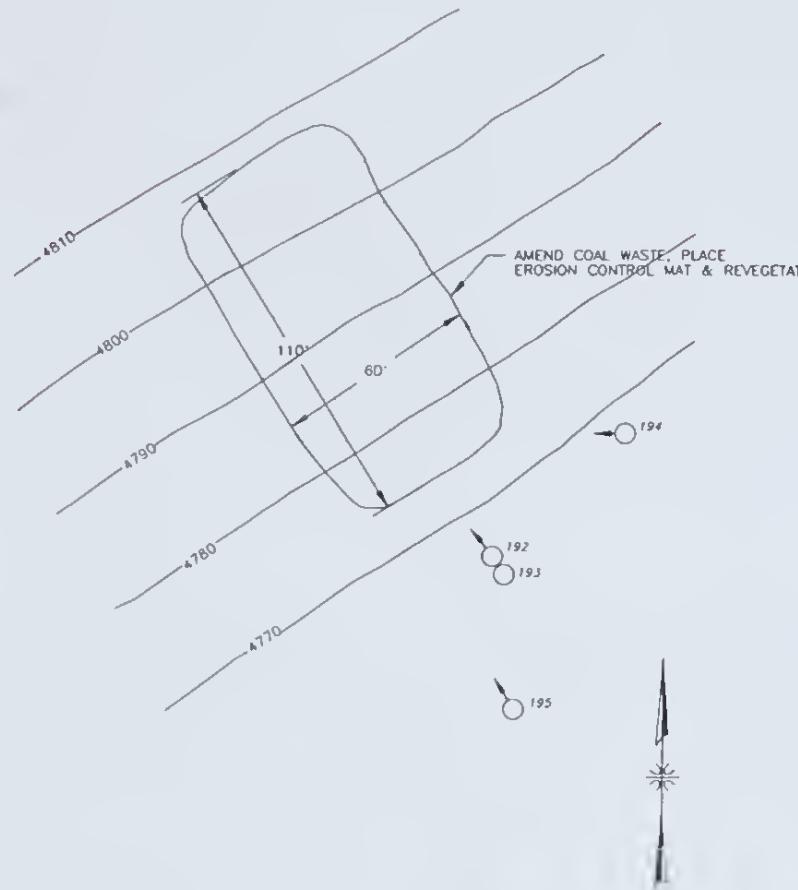
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APPROVED BY: DW
REVISIONS
REV. DATE

PHOTOINDEX.DRW

Sheet No. 6 of 7



HUGHES F SITE 1
NE 1/4 SEC. 32, R12E, T15N



NOTE
Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

SCALE IN FEET
CONTOUR INTERVAL = 2'

WORK DESCRIPTION FOR HUGHES F SITE 1

The Contractor shall neutralize the waste area (60' x 110') with calcium carbonate. Lime shall be thoroughly mixed into the top 6 inches at the rate of 20 tons/acre/ 6" slice (3.03 tons total) in accordance with Technical Specification 301.00, Lime Products. Place the erosion control mat (735 SY) over the cover soiled area. The erosion control mat shall be North American Green SC150 or equivalent with 8" staples. The Contractor shall revegetate all disturbed areas including the access road as directed by the Owner (0.57 acres). All disturbed areas shall be drill seeded (13.68 pounds) and fertilized (7.41 pounds). Then mulch (1,710 pounds) shall be applied and crimped over all of the 0.57 vegetated acres.

HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for opprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

ARCHAEOLOGICAL NOTICE

There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.

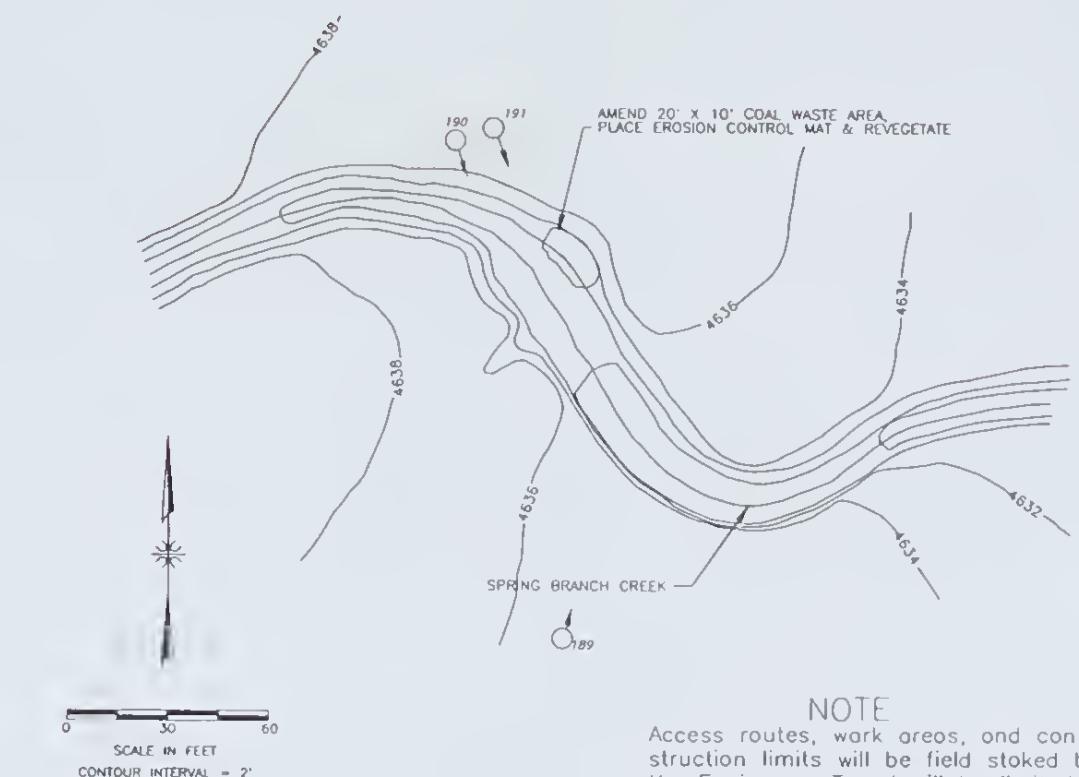
BASE MAP

Topography is of reconnaissance class and has not been field checked. Base topo is from a field survey done by Spectrum Engineering in 1994.

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

LEGEND

- 4600 — Contour
-  Coal Waste Treatment Area
- 195 — Construction Photos



NOTE
Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

WORK DESCRIPTION FOR HUGHES F SITE 2

The Contractor shall neutralize the waste area (20' x 10') with calcium carbonate. Lime shall be thoroughly mixed into the top 6 inches of the coal waste at the rate of 20 tons/acre/ 6" slice (0.1 tons total) in accordance with Technical Specification 301.00, Lime Products. Place the erosion control mat (25 SY) over the cover soiled area.

The erosion control mat shall be North American Green SC150 or equivalent with 8" staples. The Contractor shall revegetate all disturbed areas including the access road as directed by the Owner (0.01 acres). All disturbed areas shall be drill seeded (0.23 pounds) and fertilized (1.3 pounds). Then mulch (30 pounds) shall be applied and crimped over all of the 0.01 vegetated acres.

STORM WATER POLLUTION PREVENTION
AND EROSION CONTROL PLAN
BEST MANAGEMENT PRACTICES
FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

The site is located adjacent to Spring Branch of the North Fork of Sog Creek. Using the SCS method, the hydrologic soil group is C and the runoff curve number (CN) is 74.

AS-BUILT & PHOTO INDEX DRAWING

SITE PLAN AND GENERAL LAYOUT

HUGHES F SITES 1 AND 2
SECTIONS 29 AND 32, T15N, R12E
JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1025 Eighth Avenue, Helena, Montana 59620

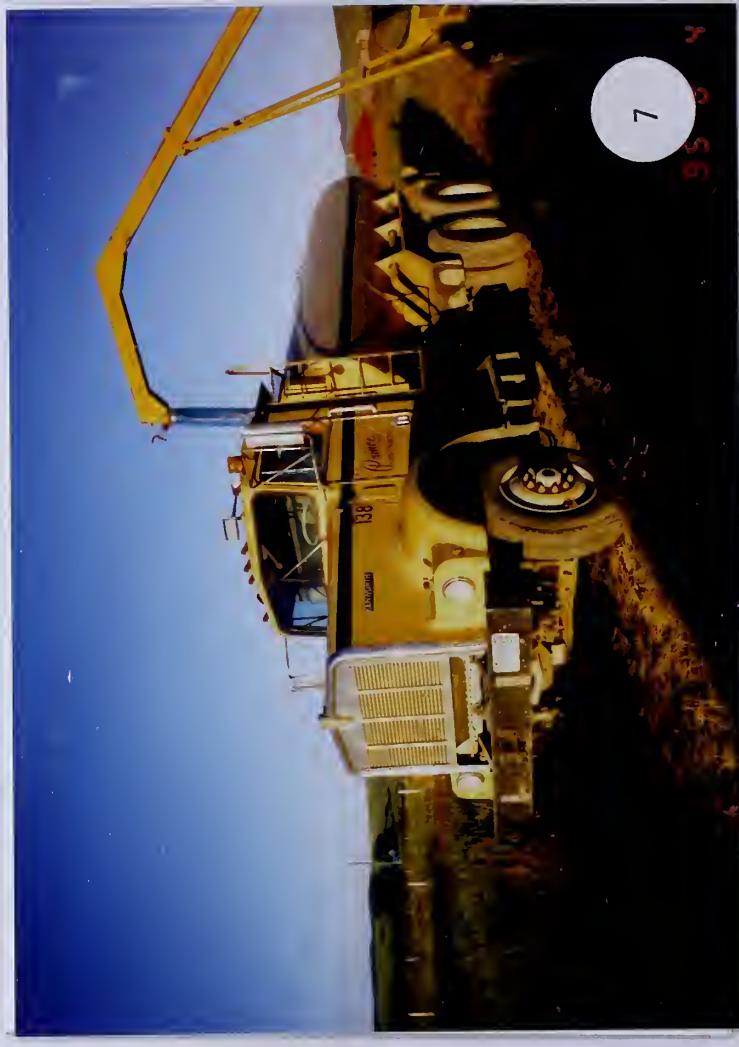
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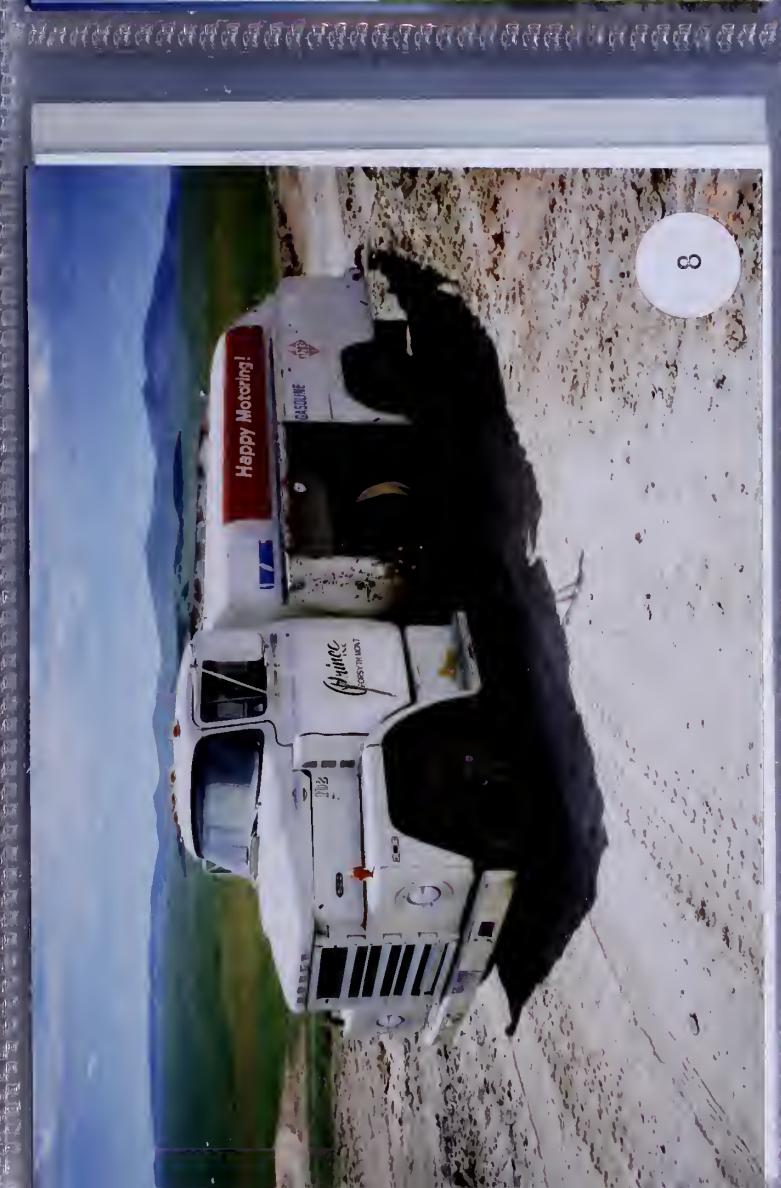
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412

DATE: January 1996
DRAWN BY: do
APPROVED BY: CHW
REVISIONS: NO
DATE: BY
SHEET NO. 8 of 7
AS-BUILT DRAWING

CONTRACTOR'S EQUIPMENT



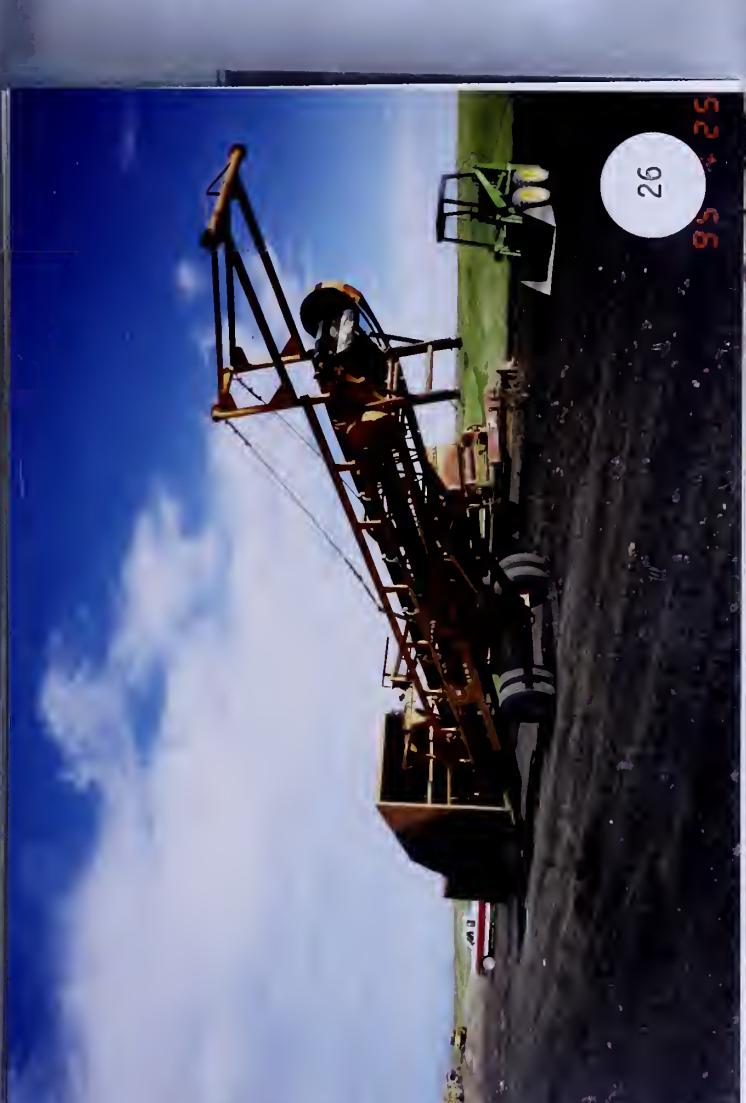


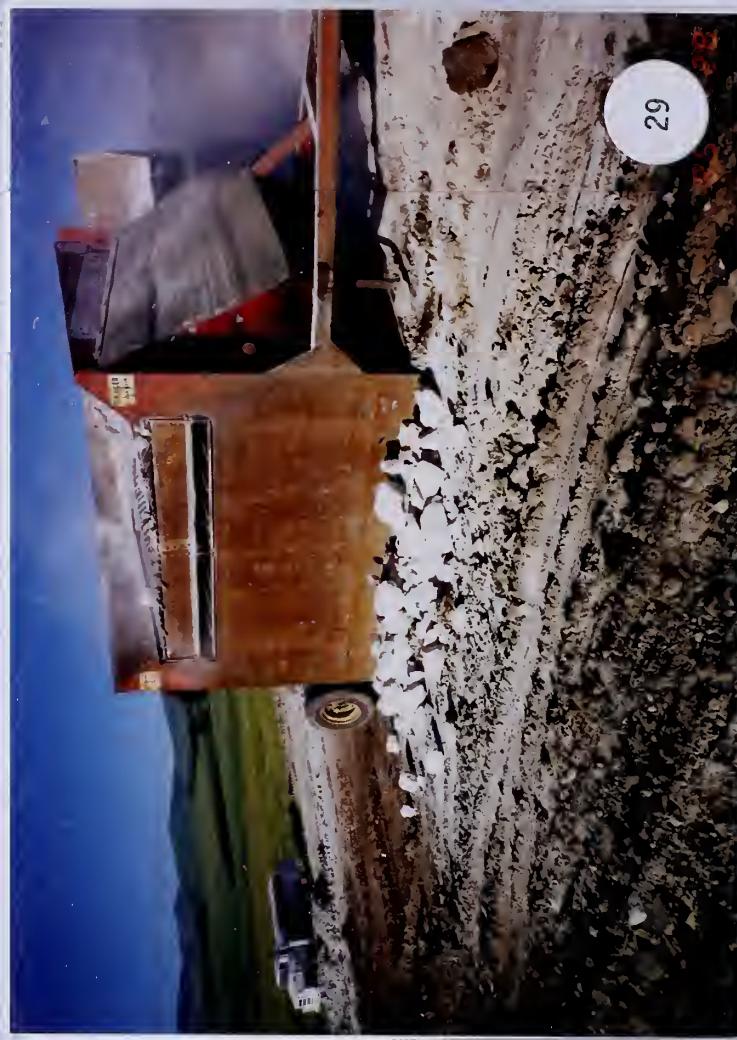






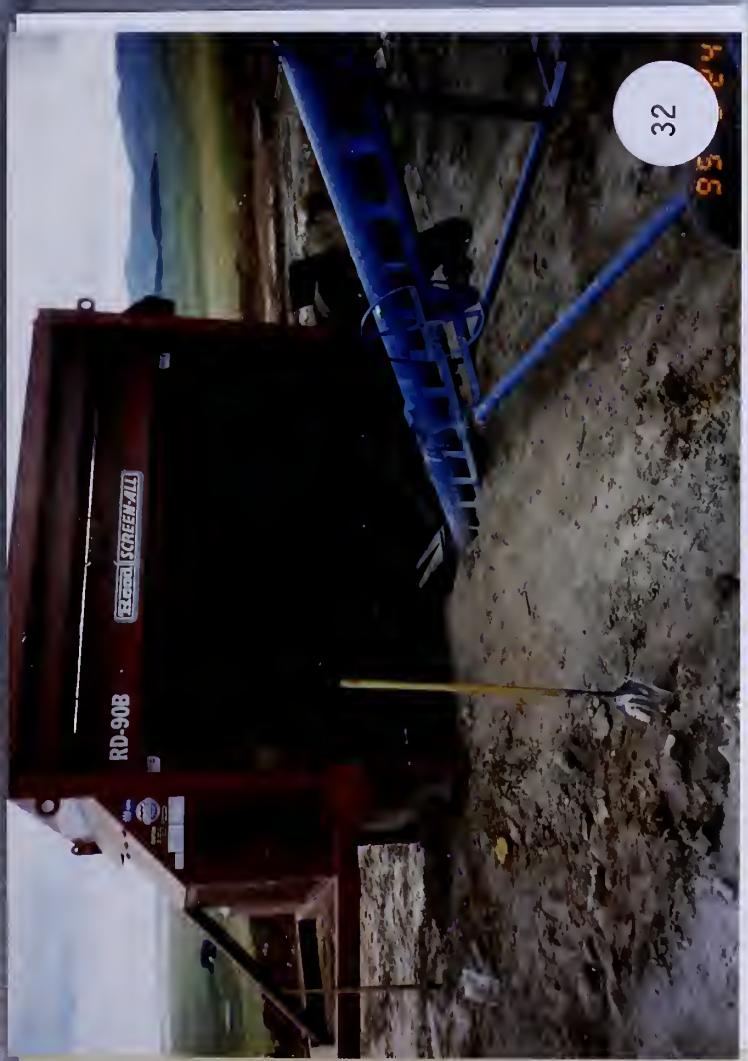








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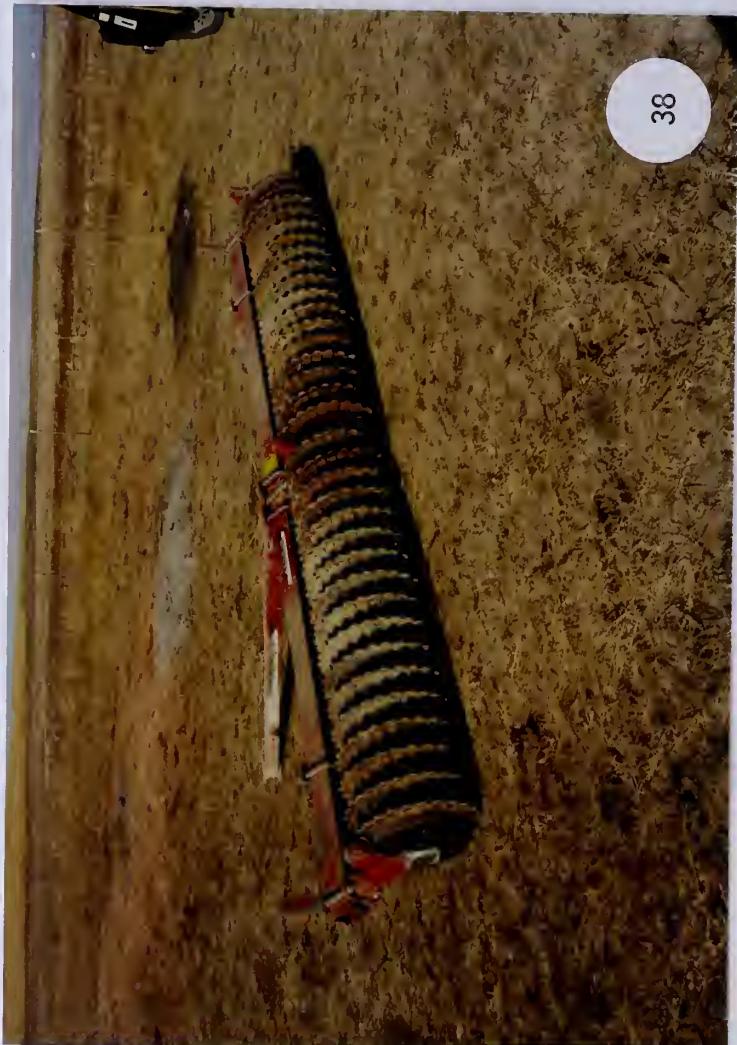
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LEHIGH PRE-CONSTRUCTION

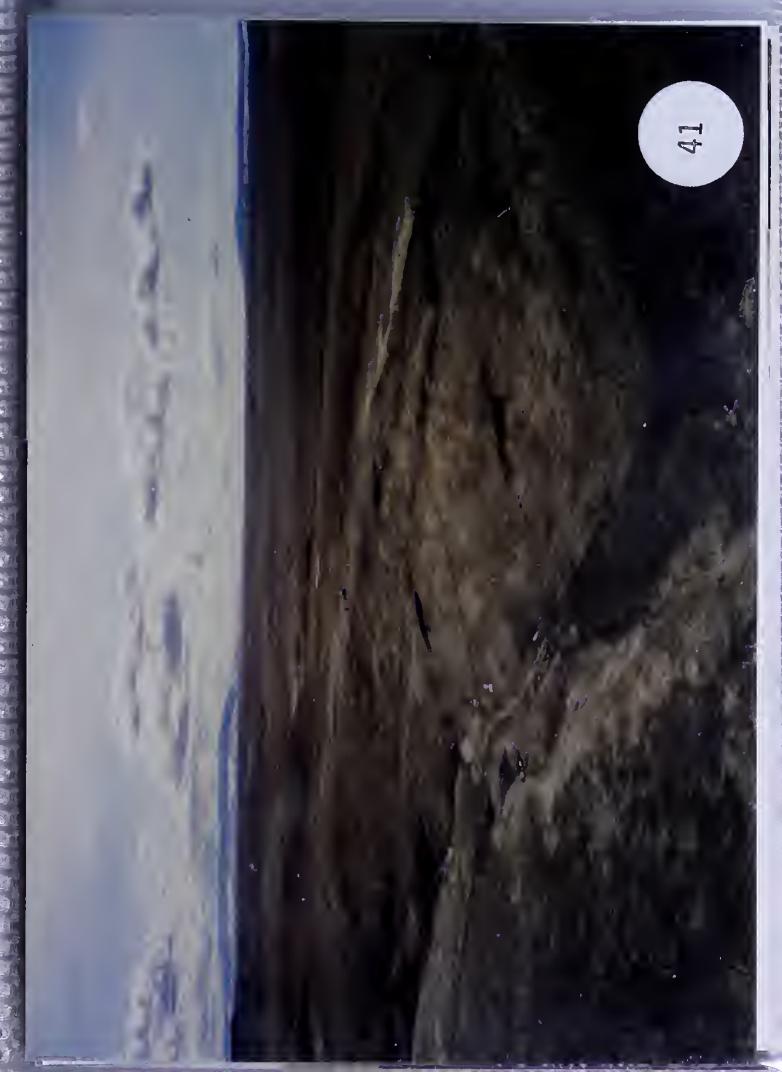
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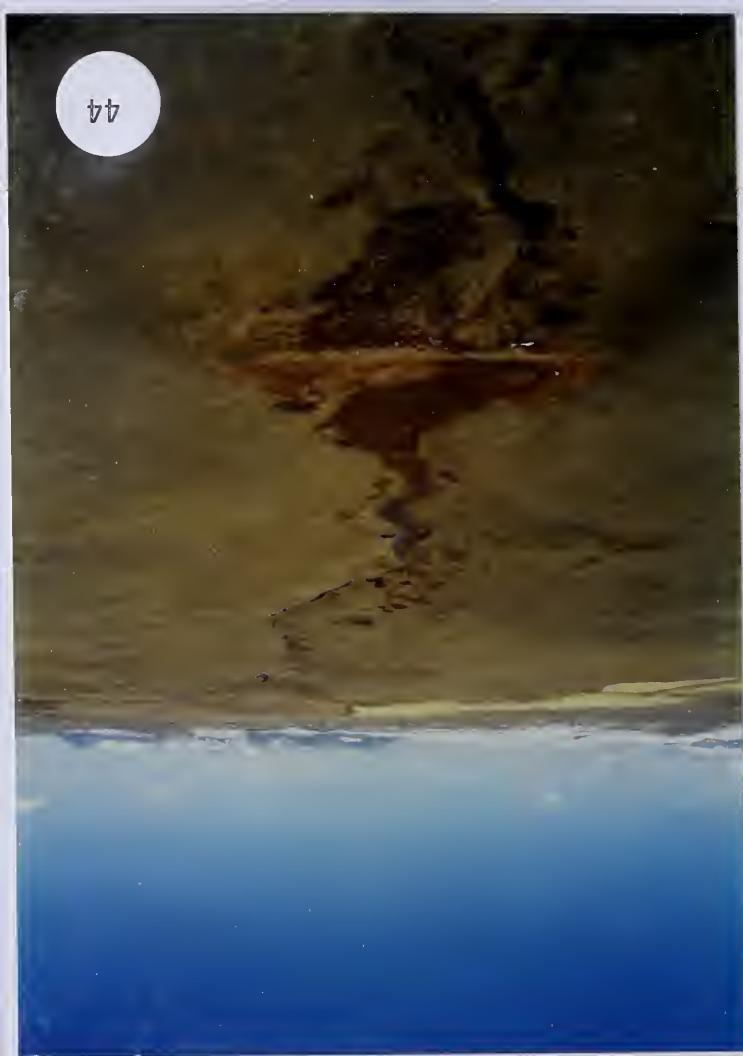
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LEHIGH CONSTRUCTION

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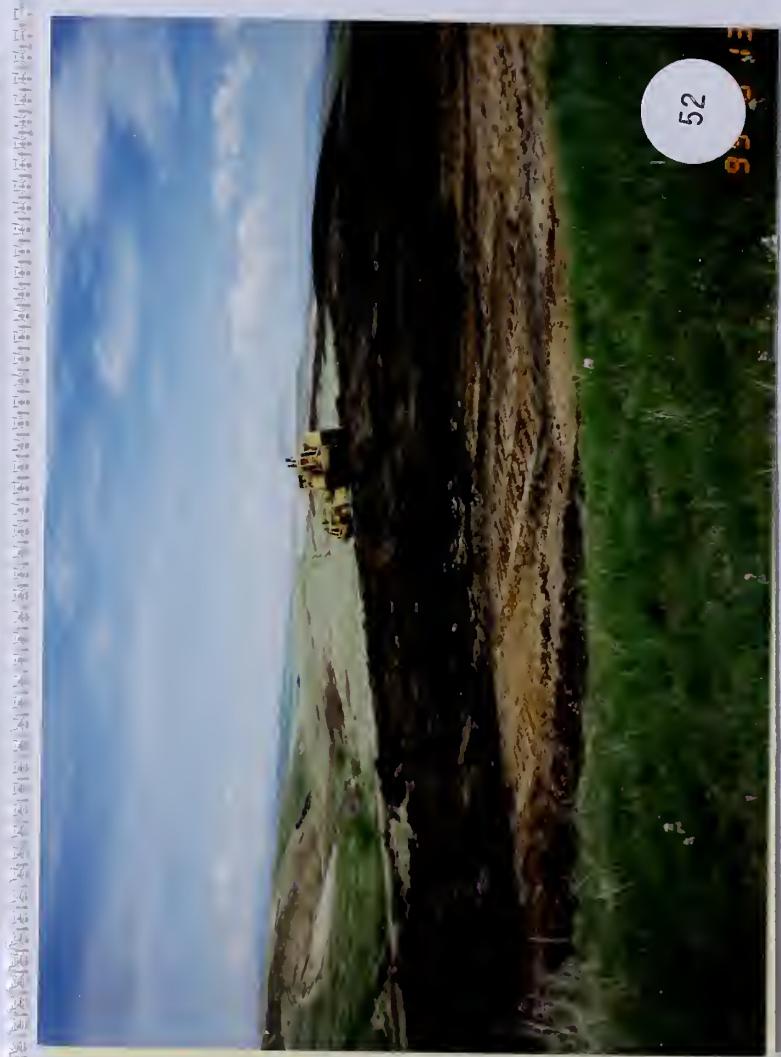
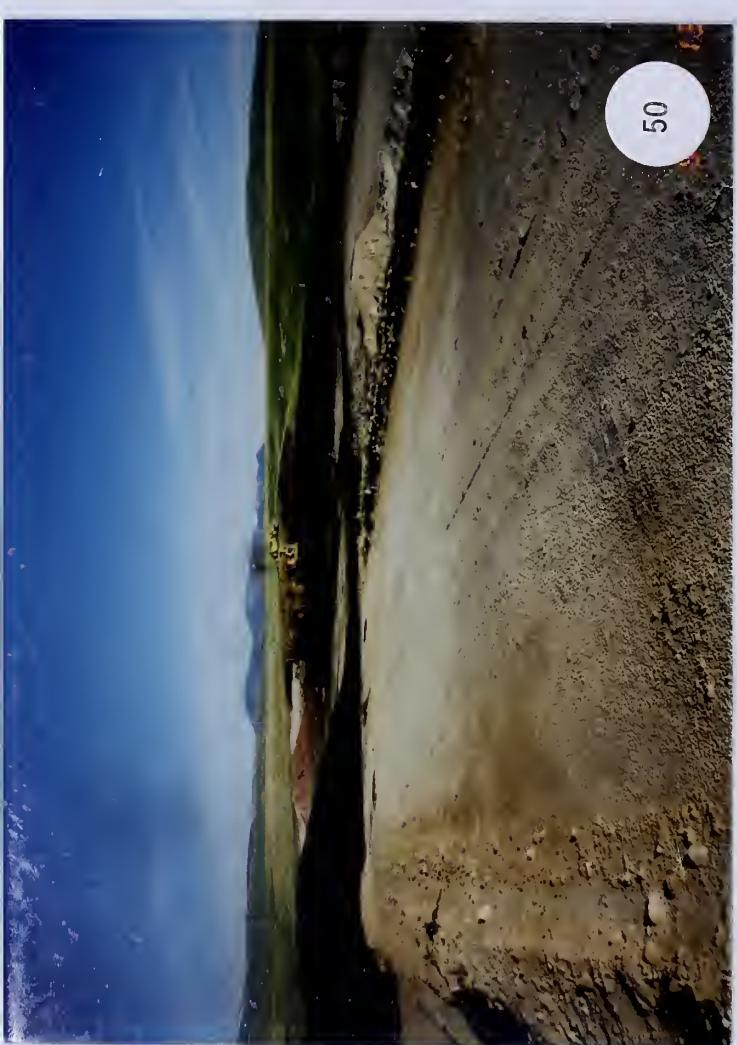


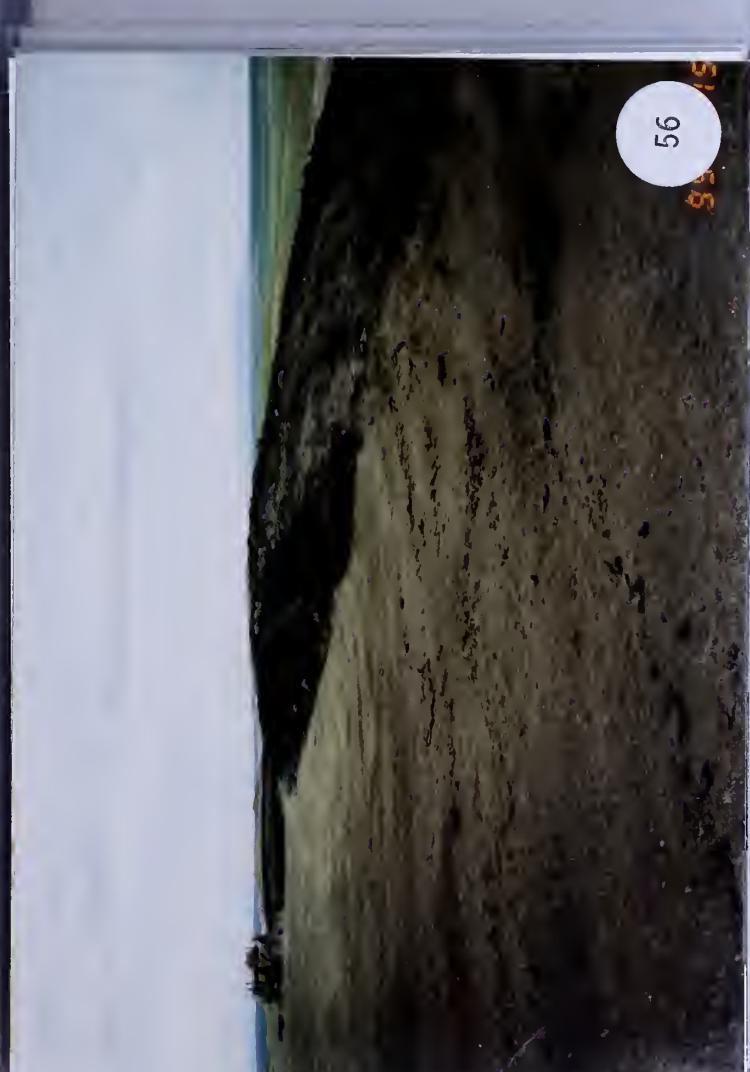
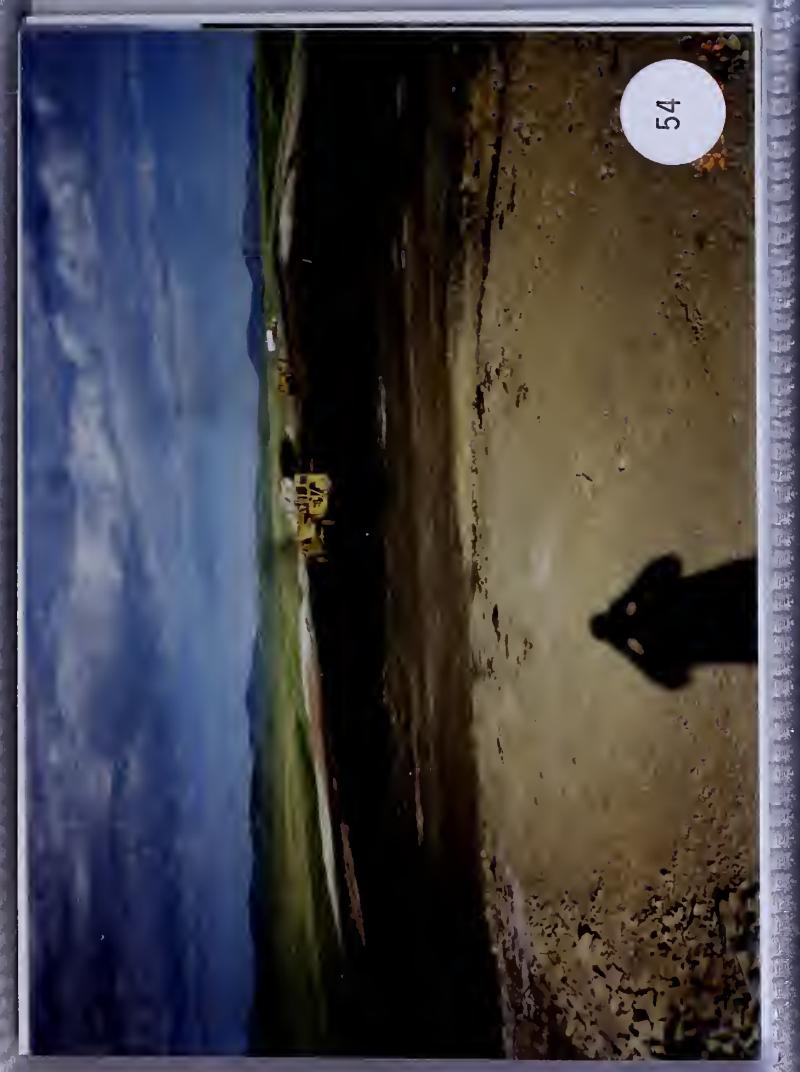
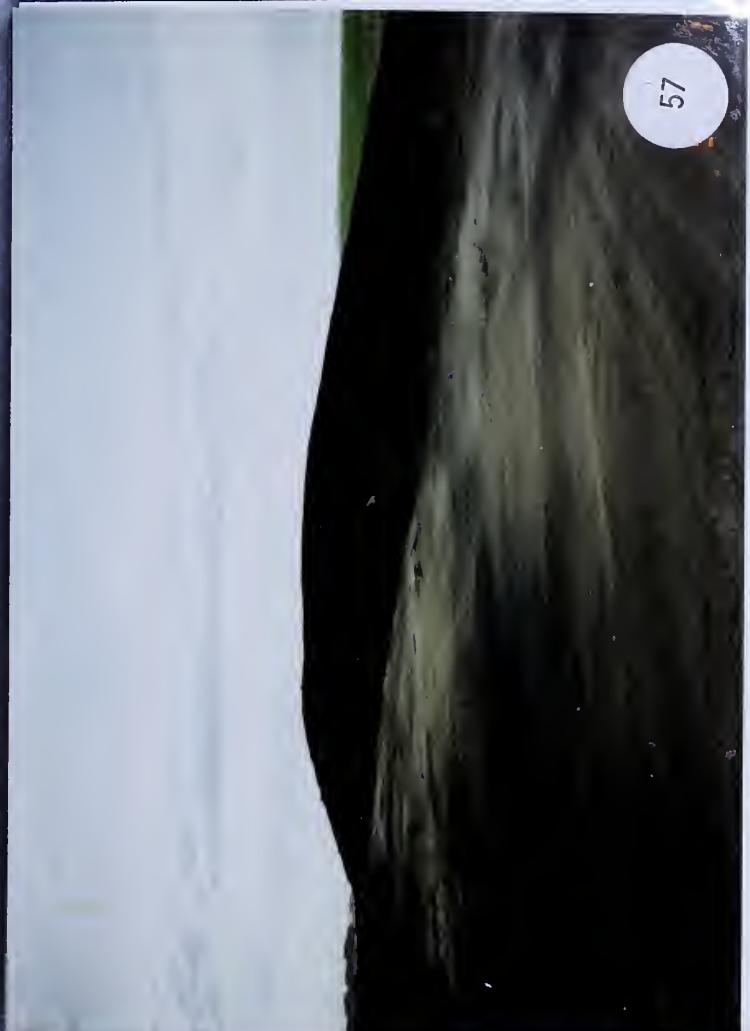
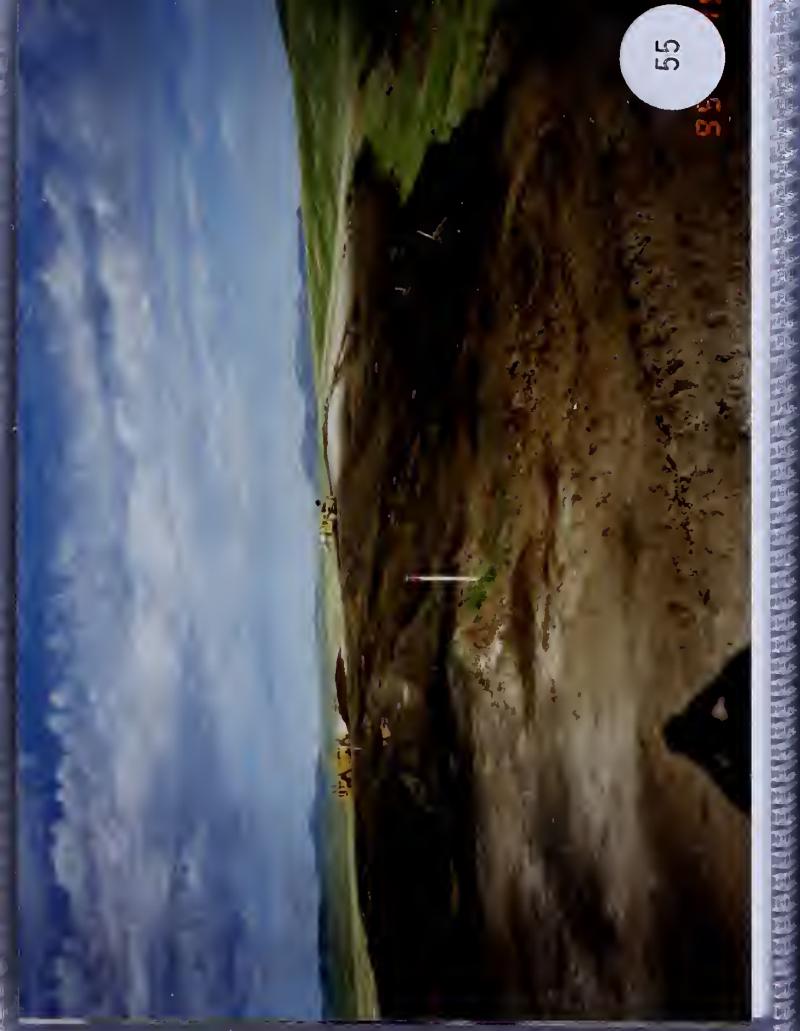
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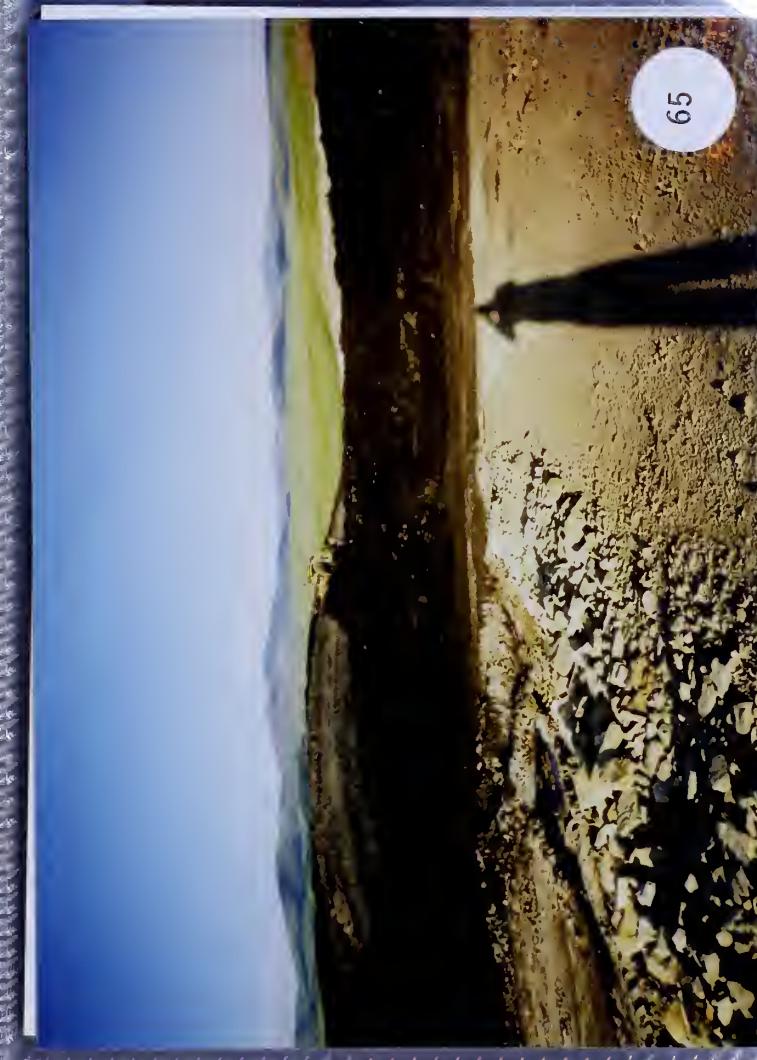
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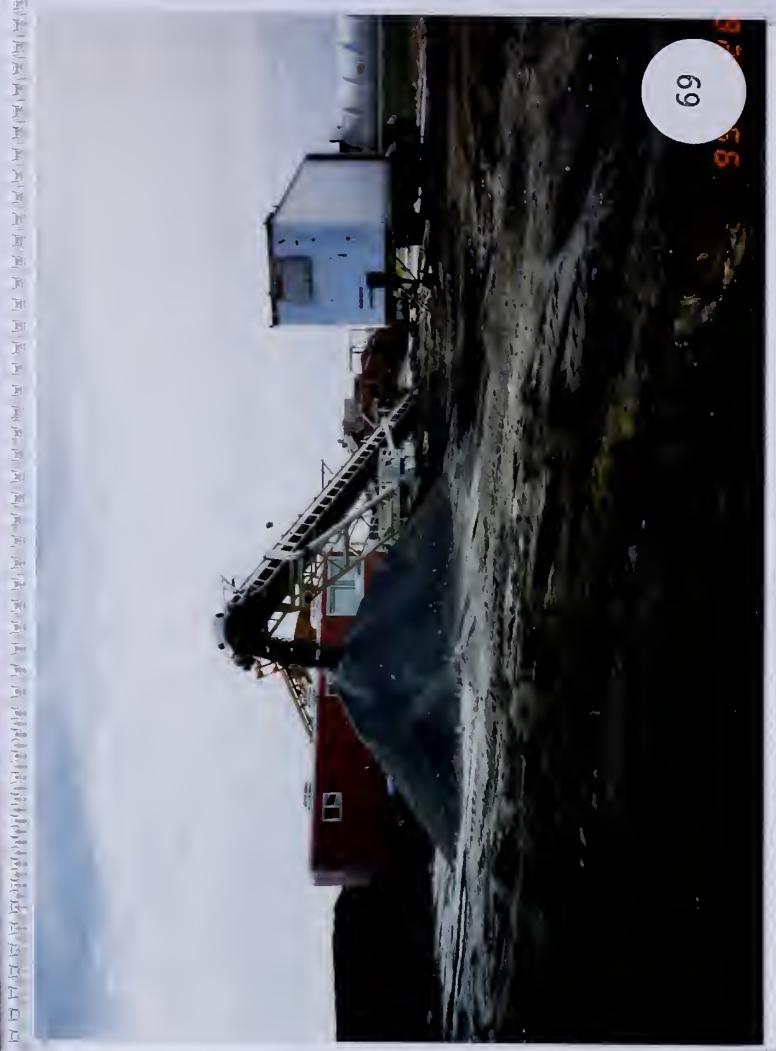
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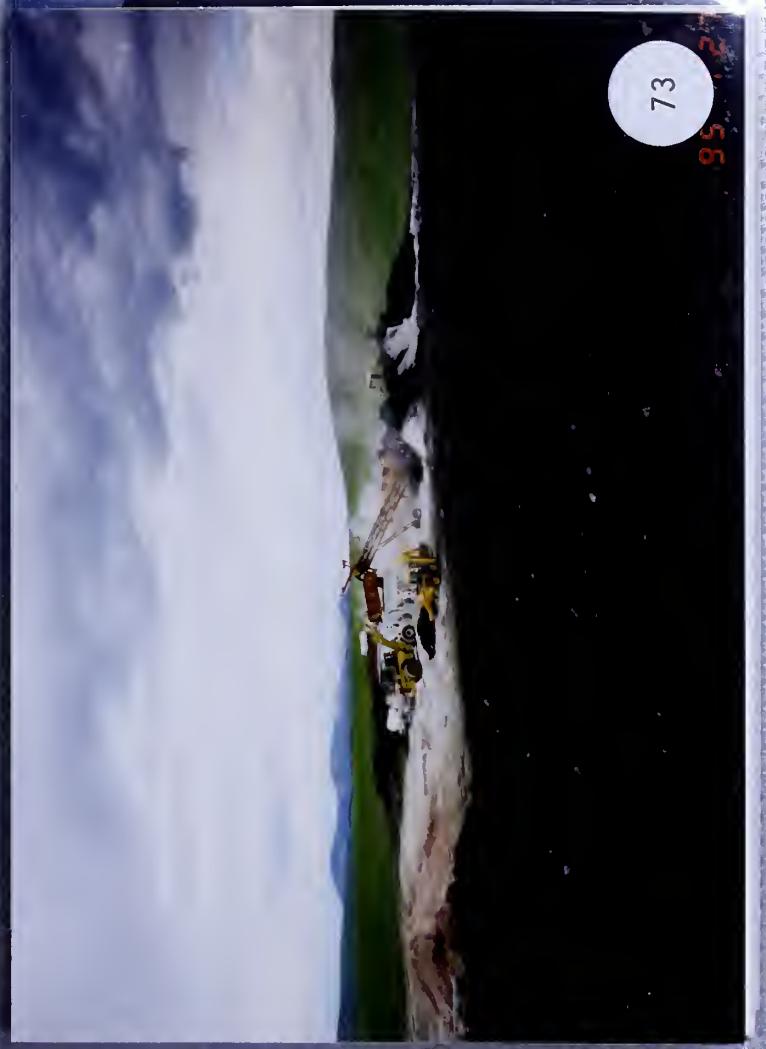


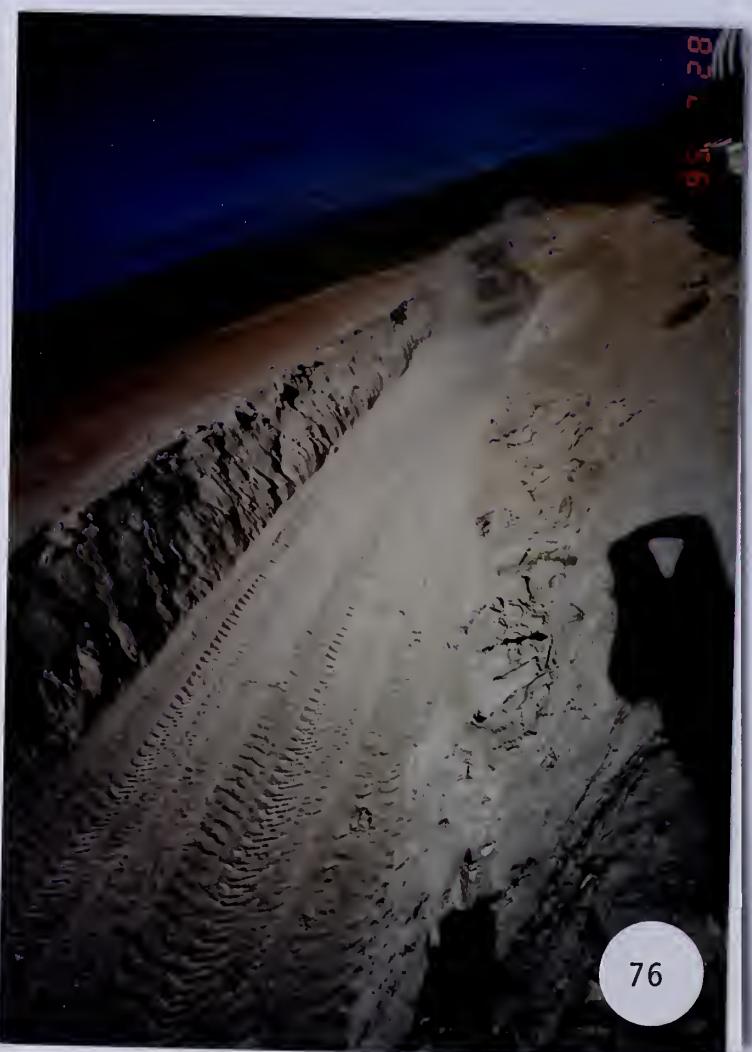
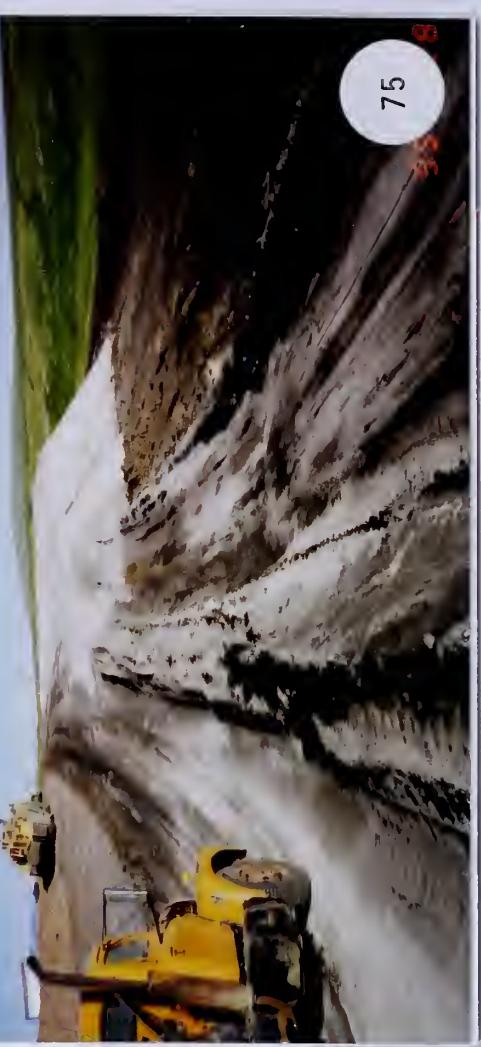
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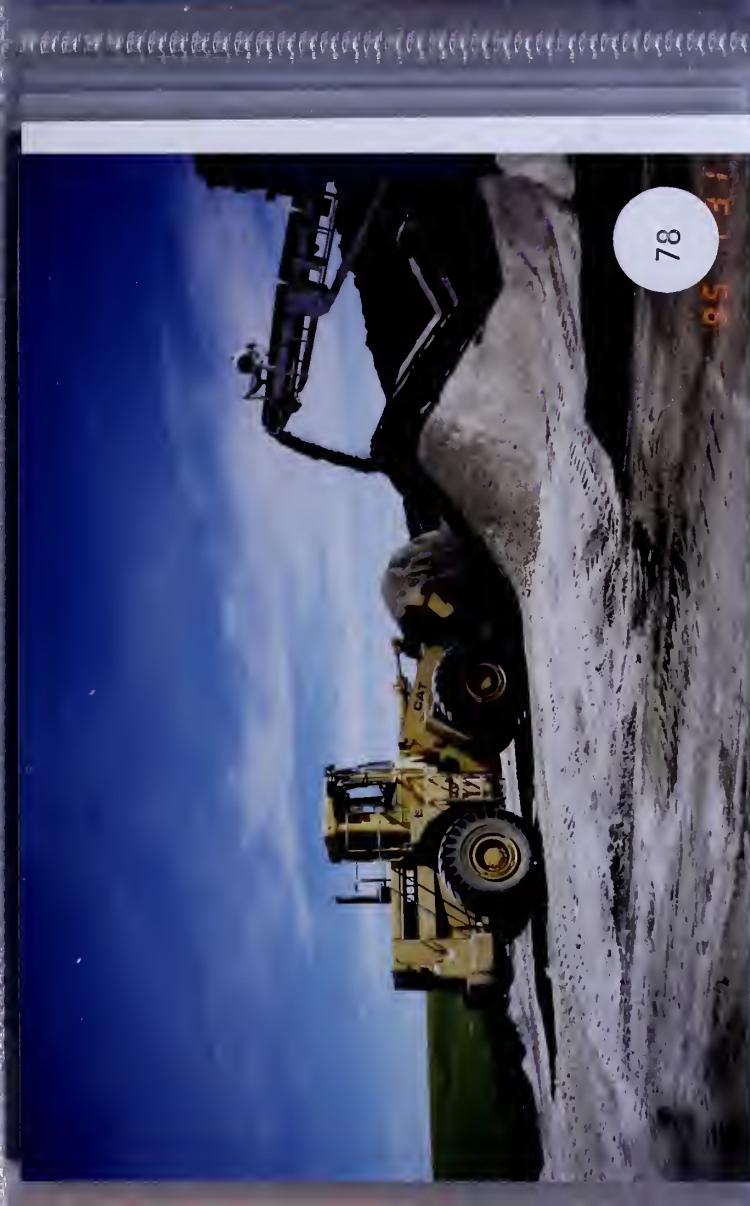




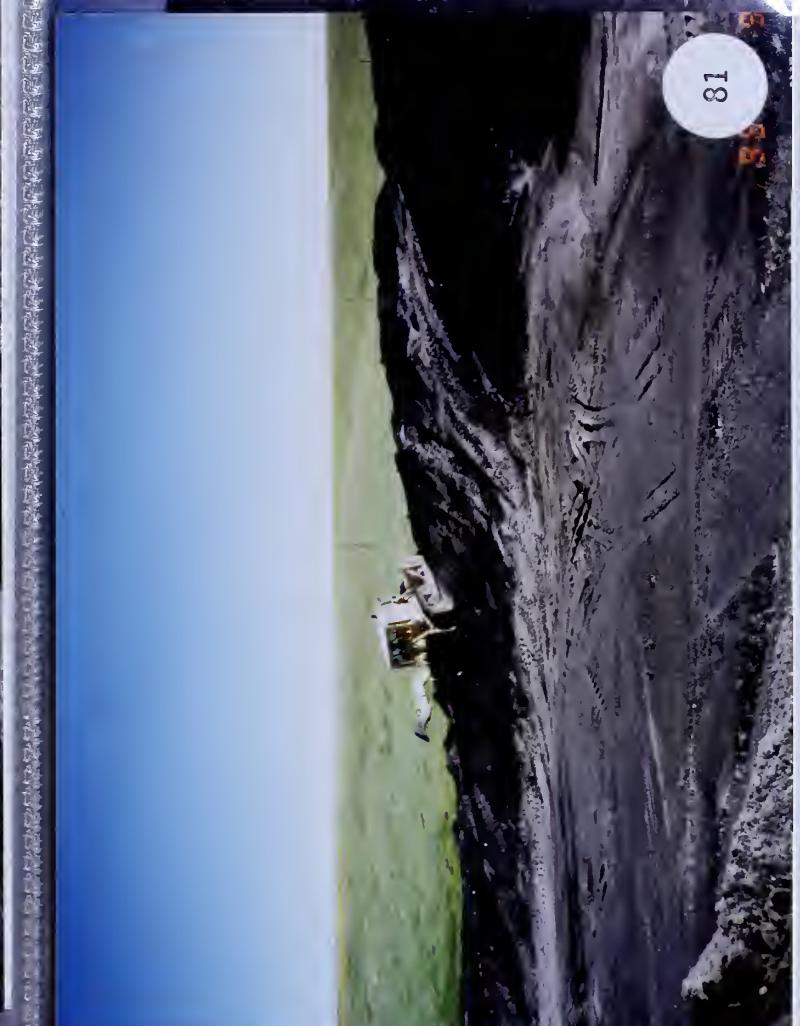




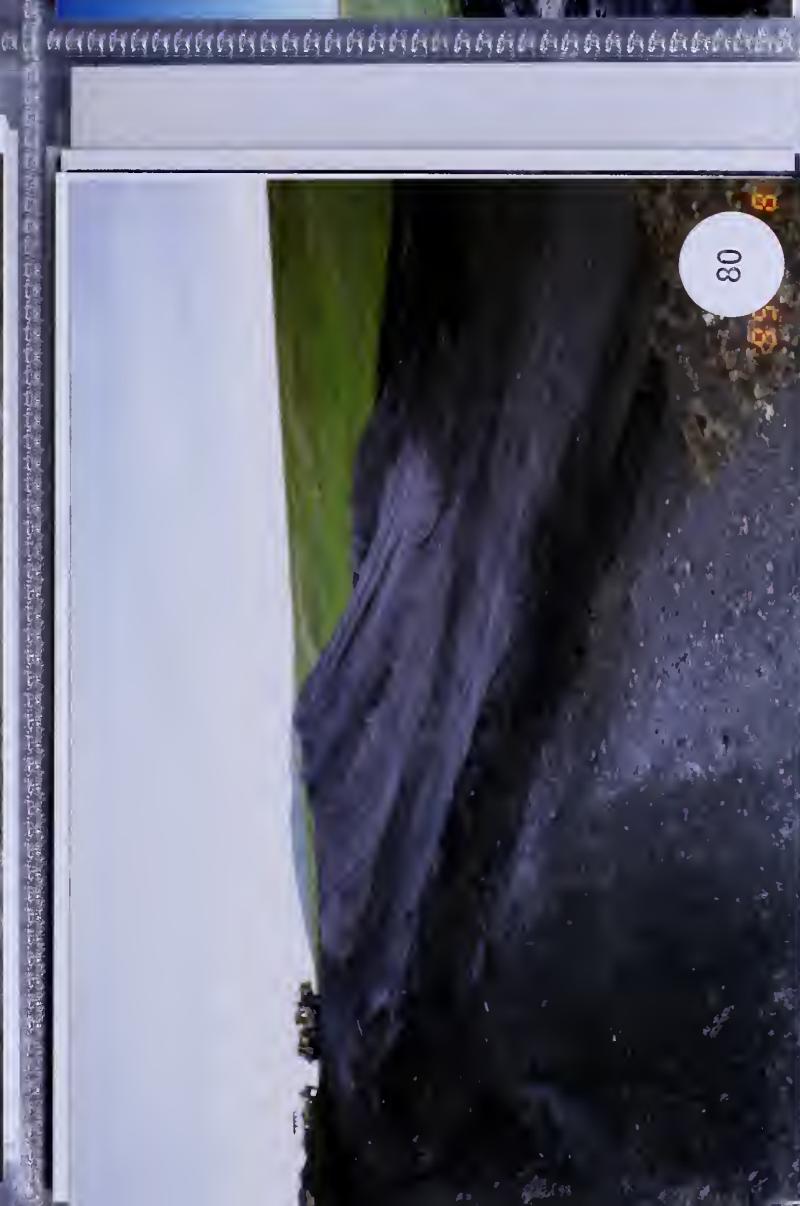
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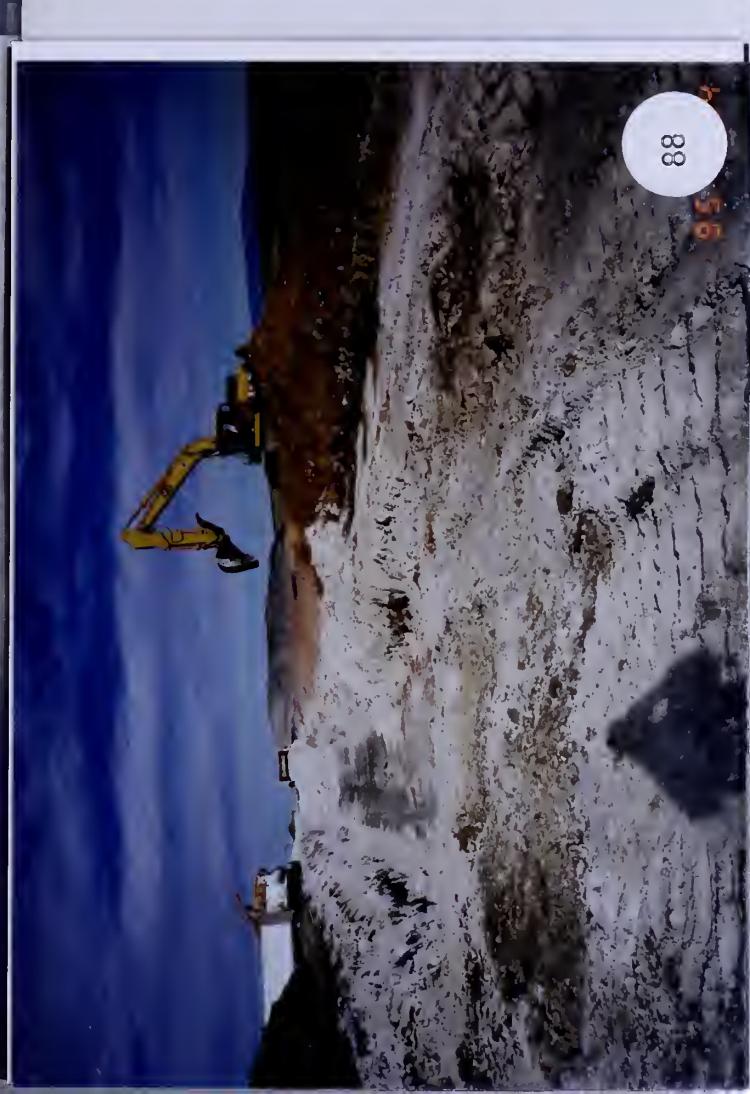
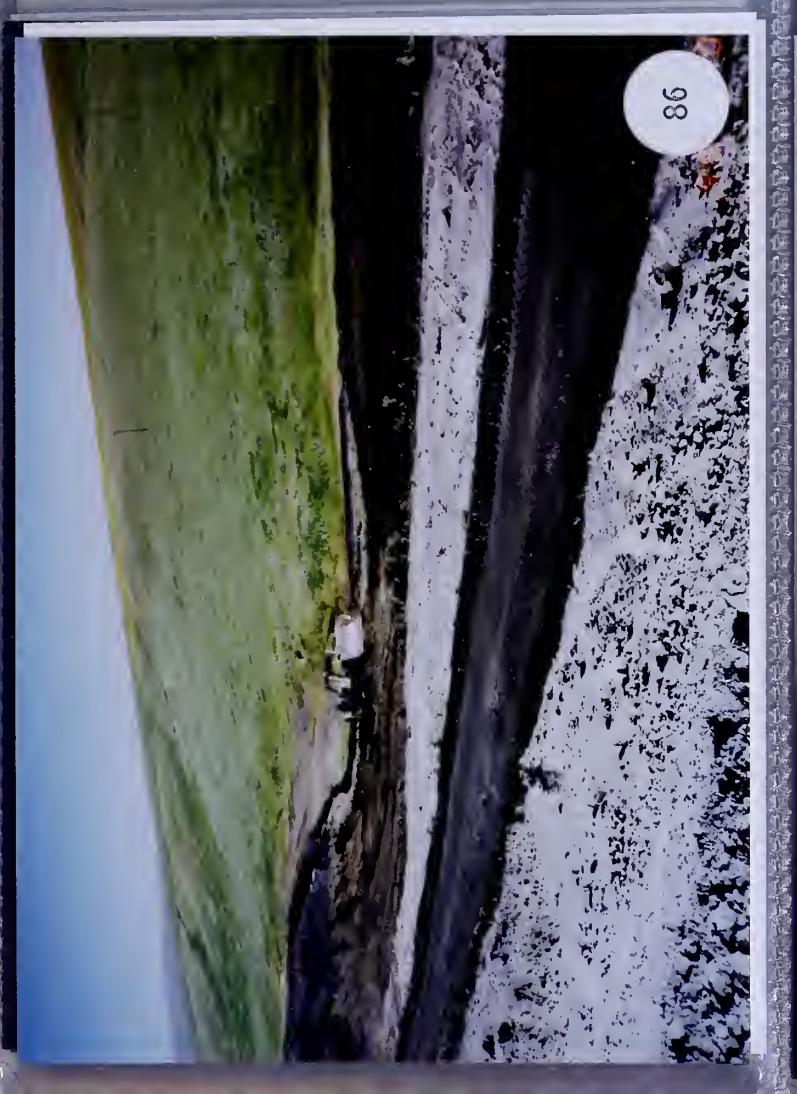
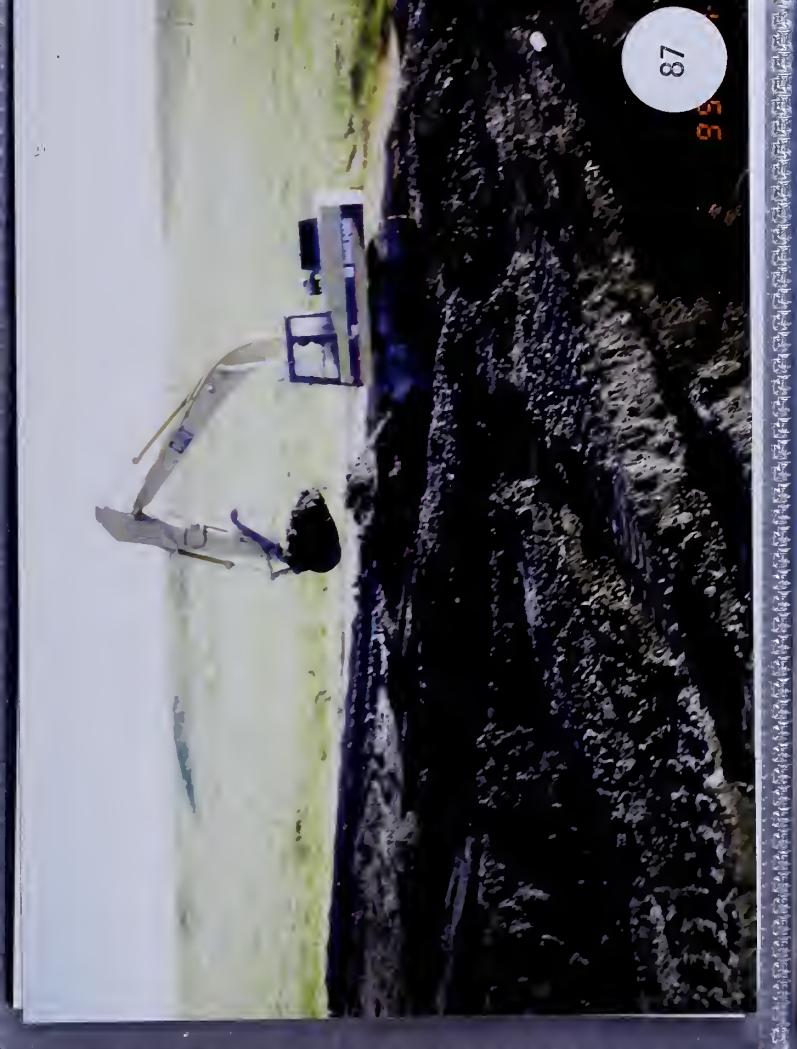


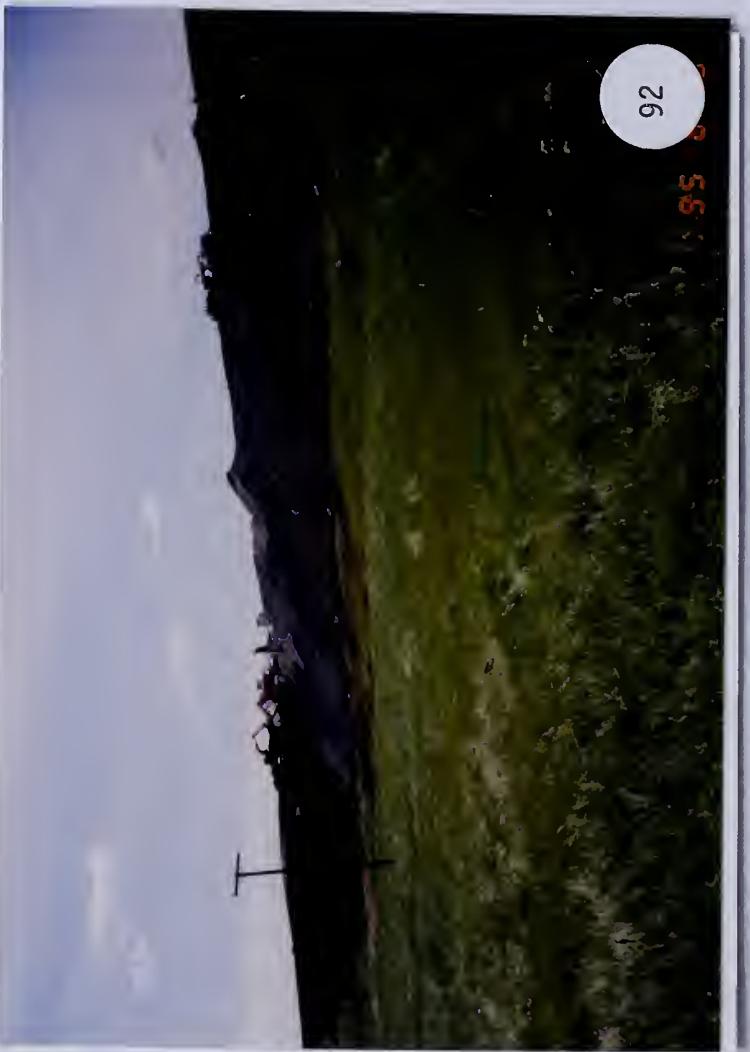
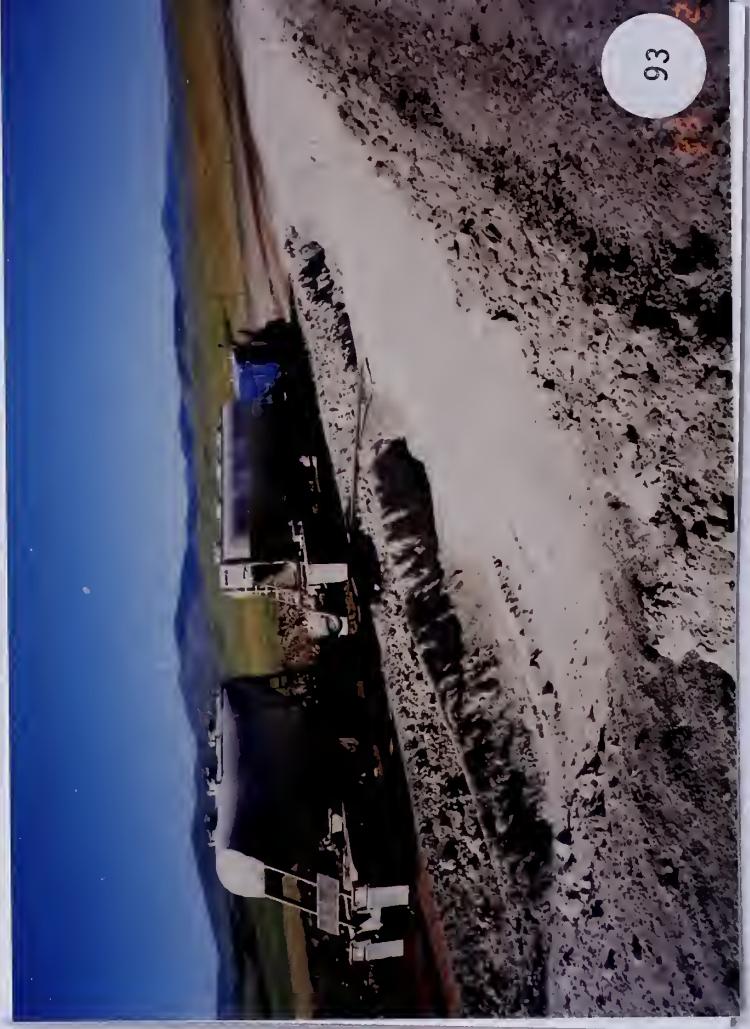
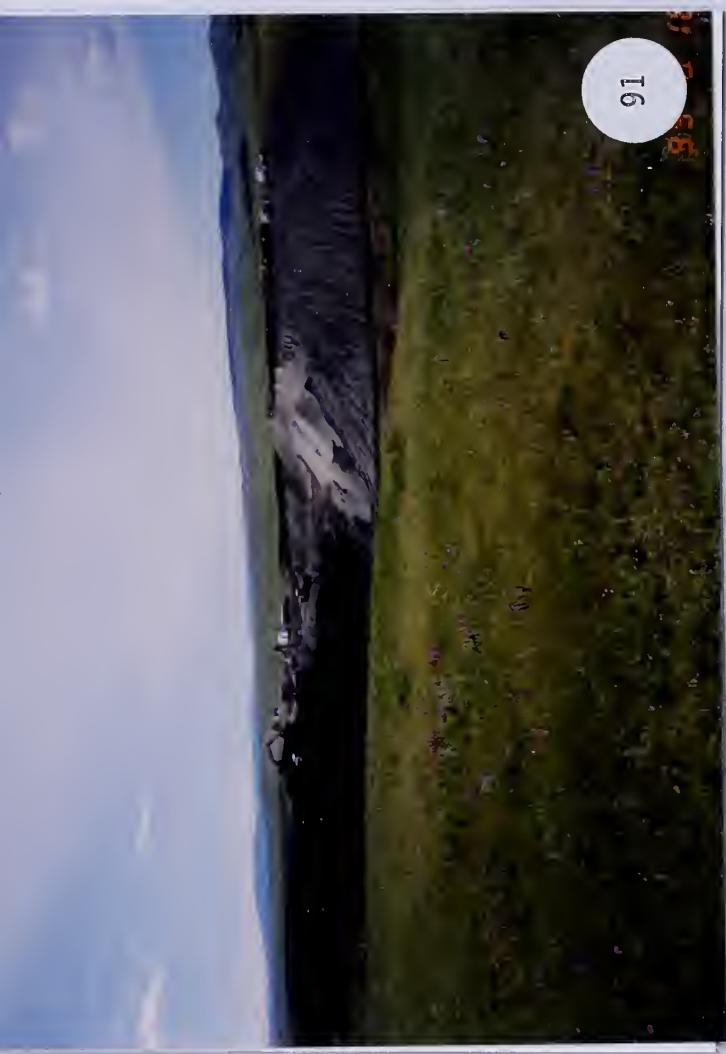
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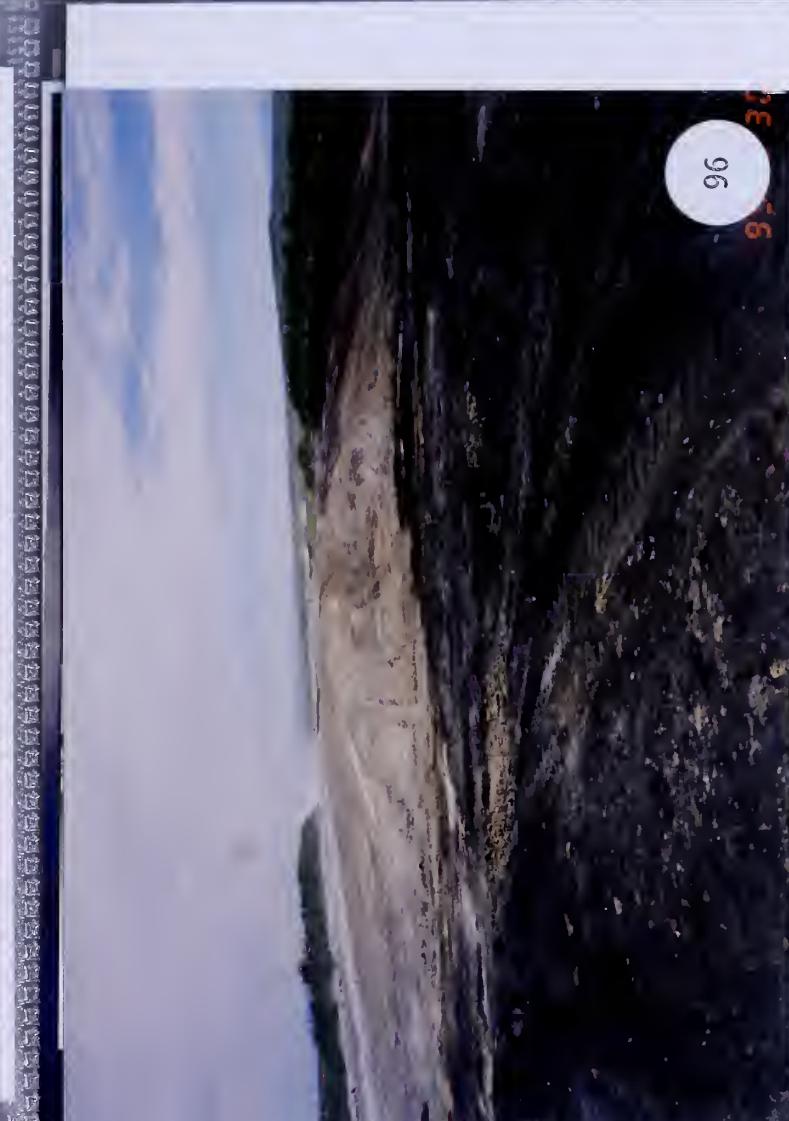
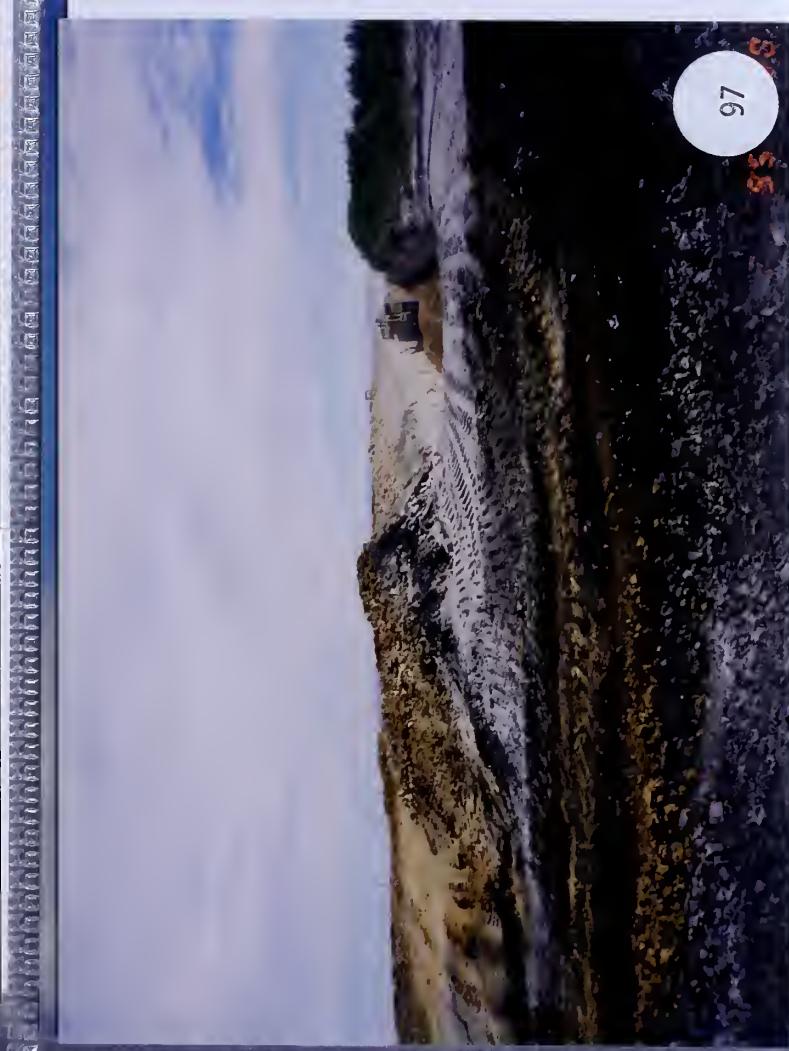


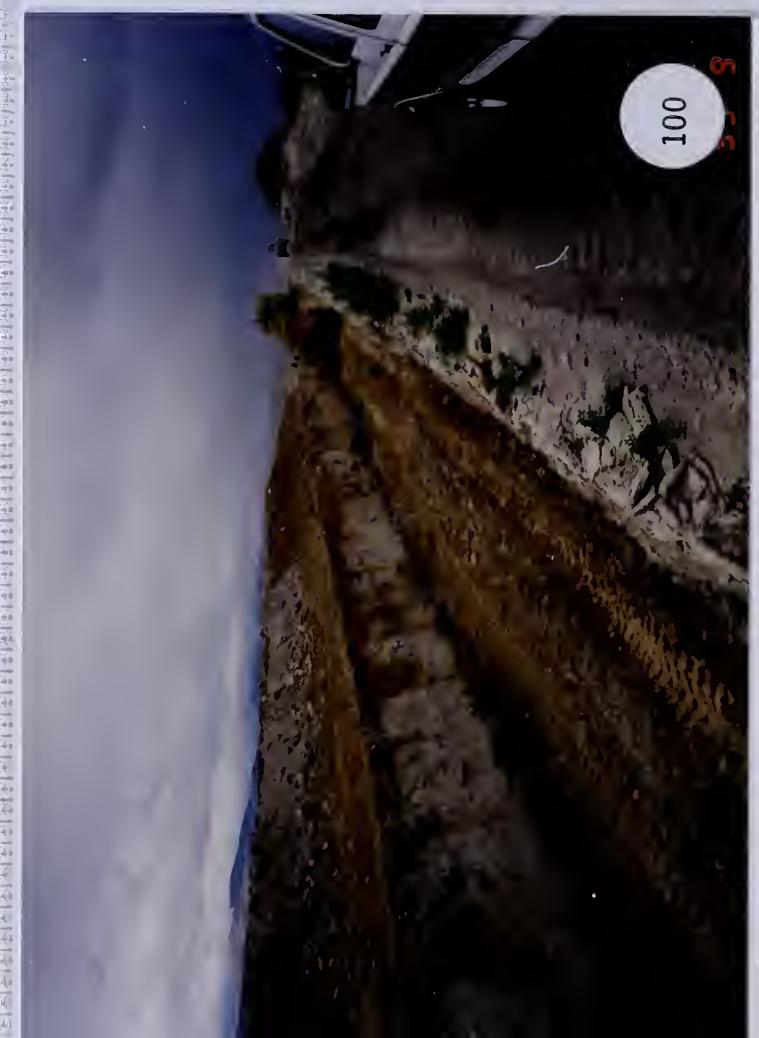
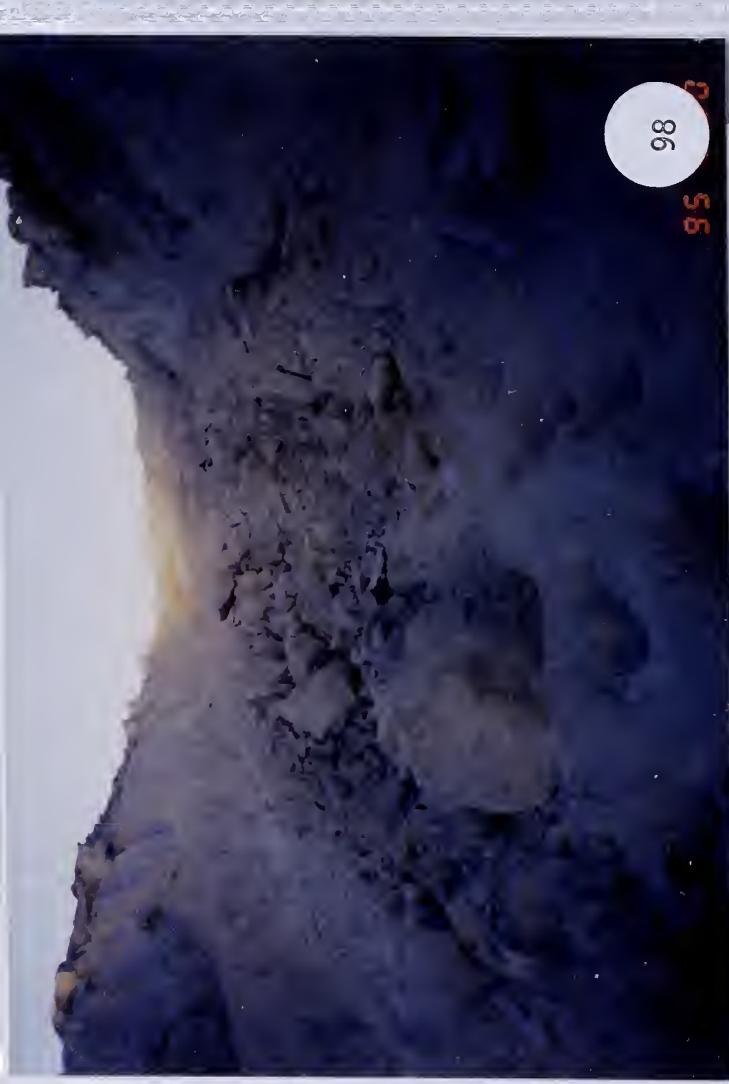
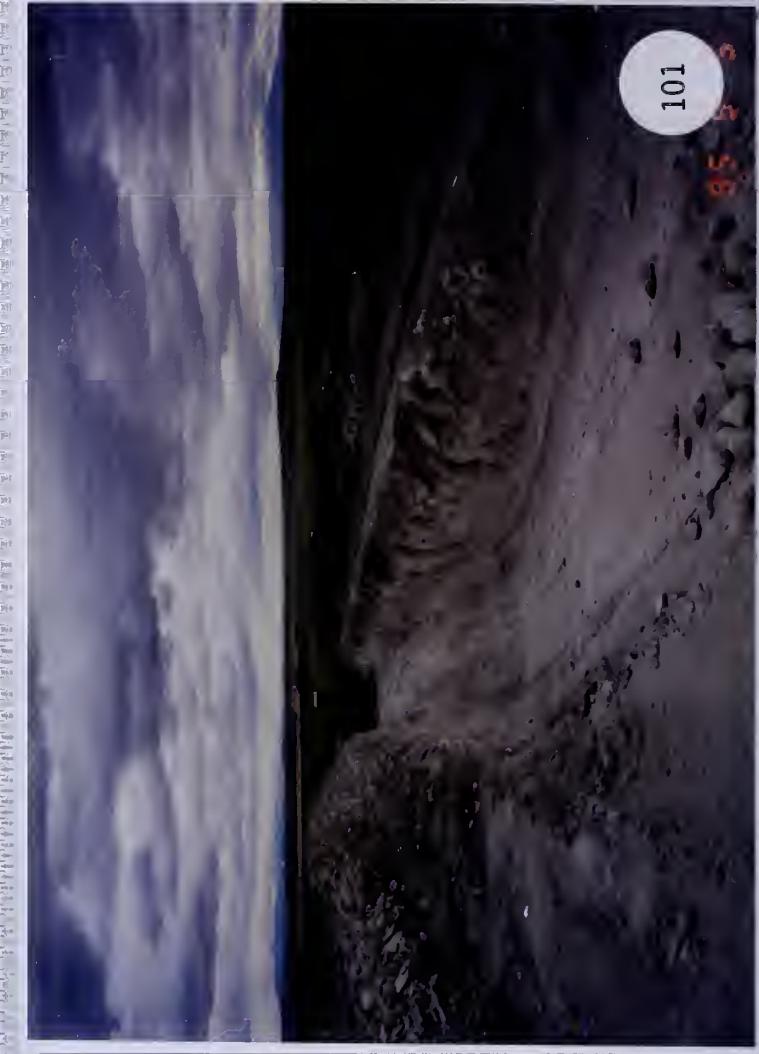
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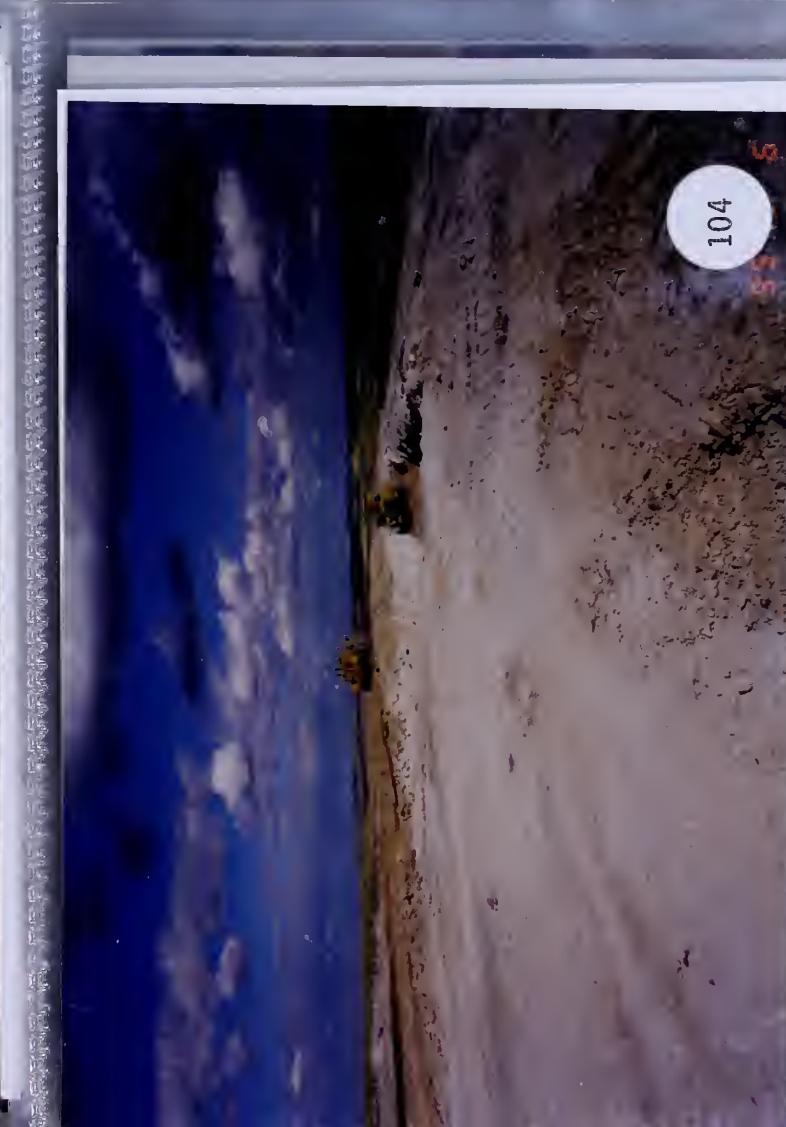
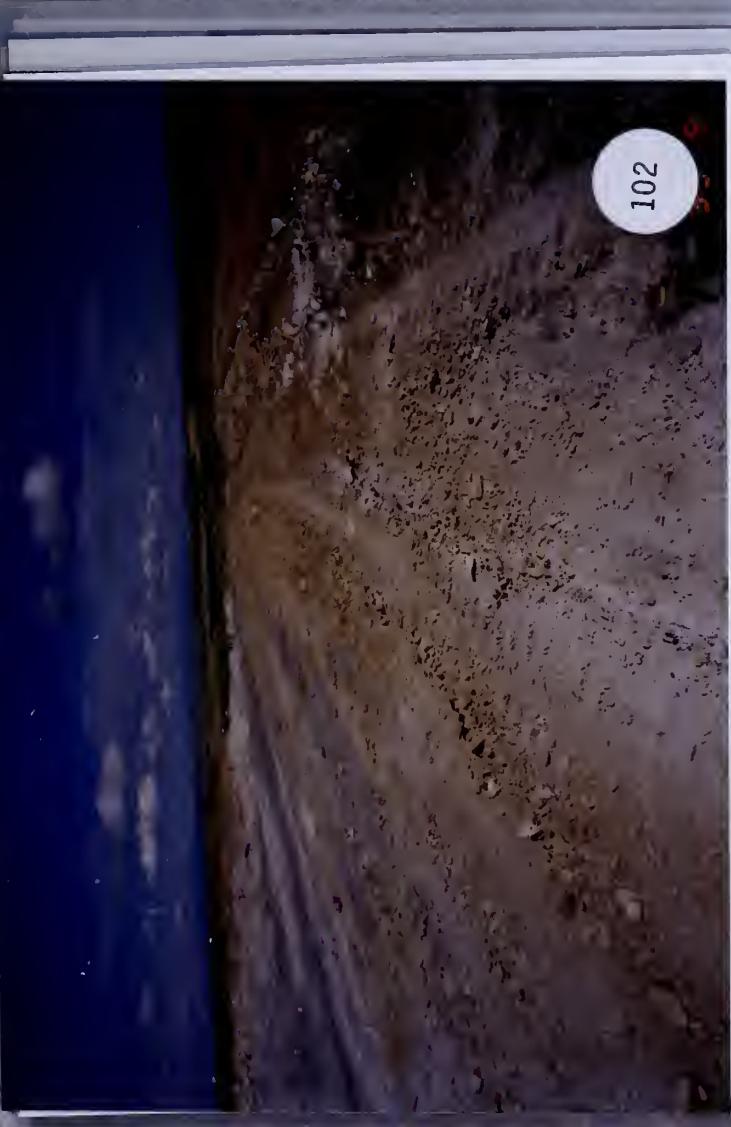


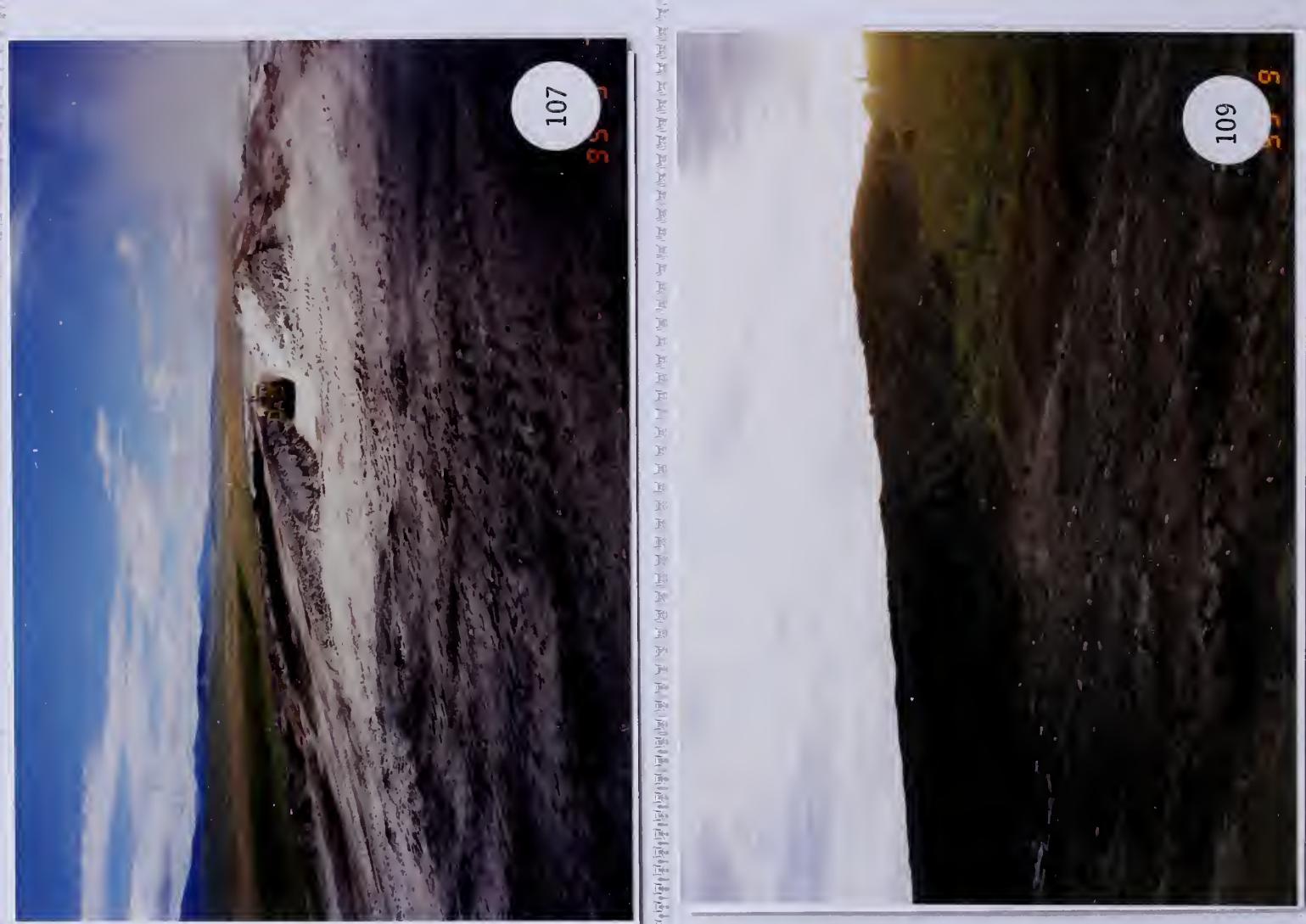










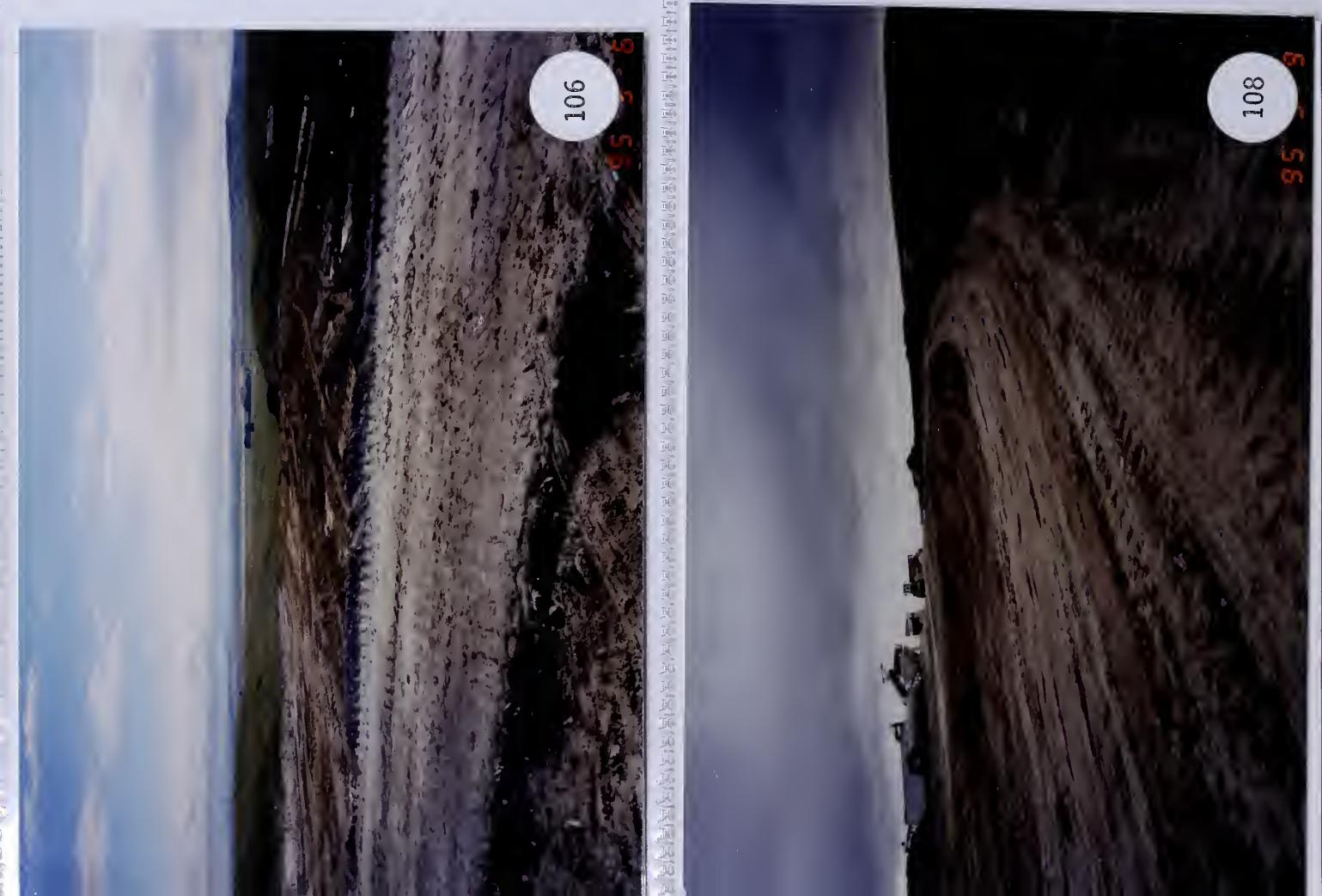


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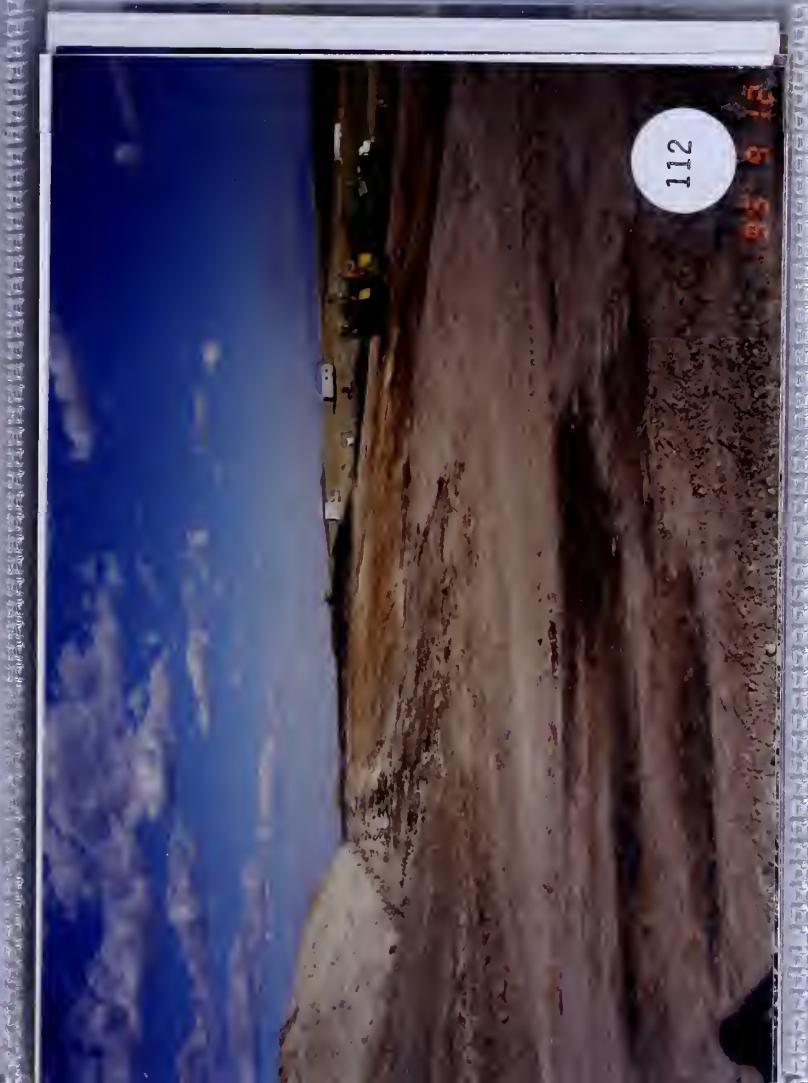


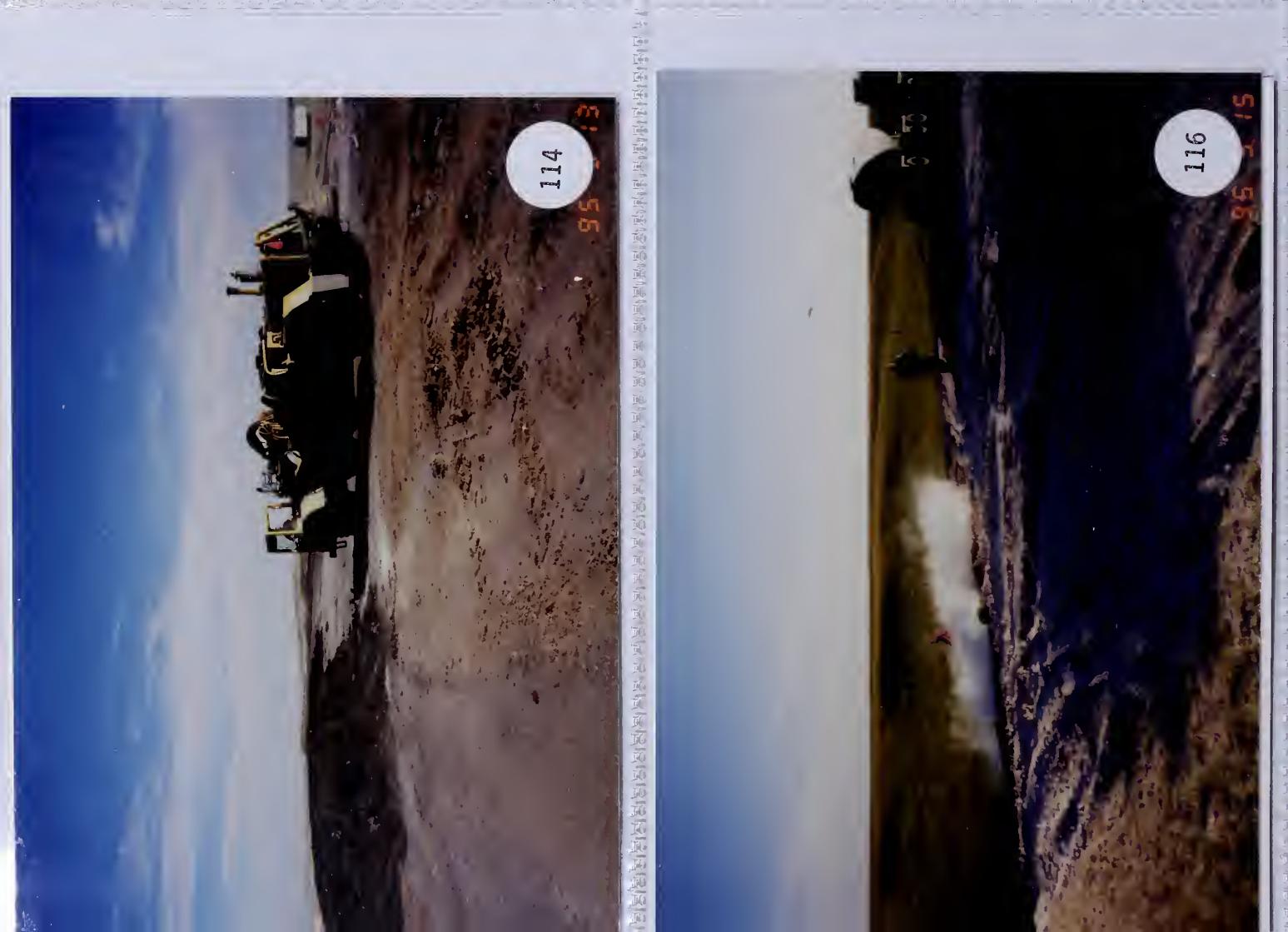
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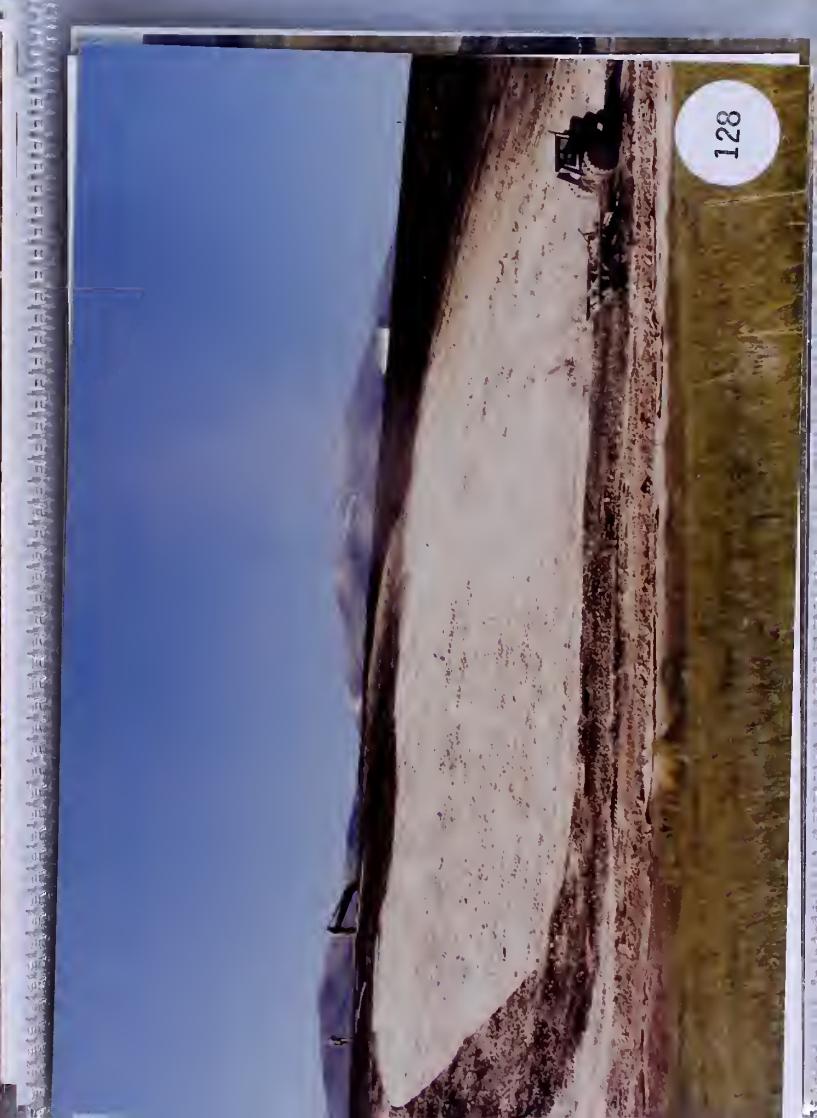


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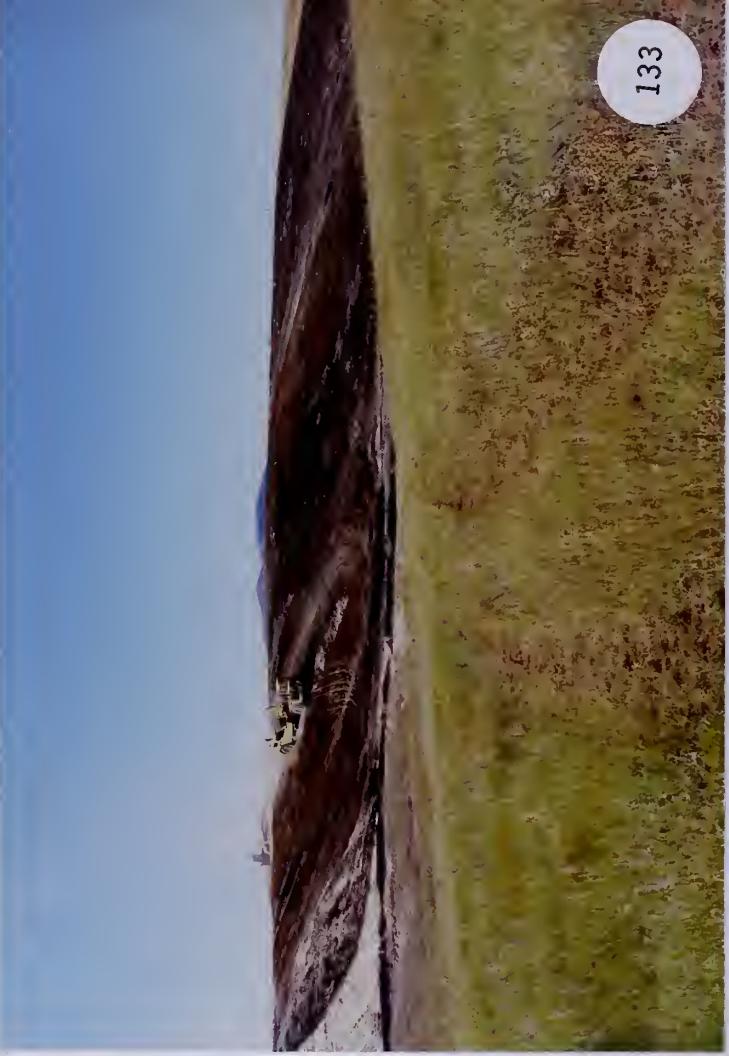


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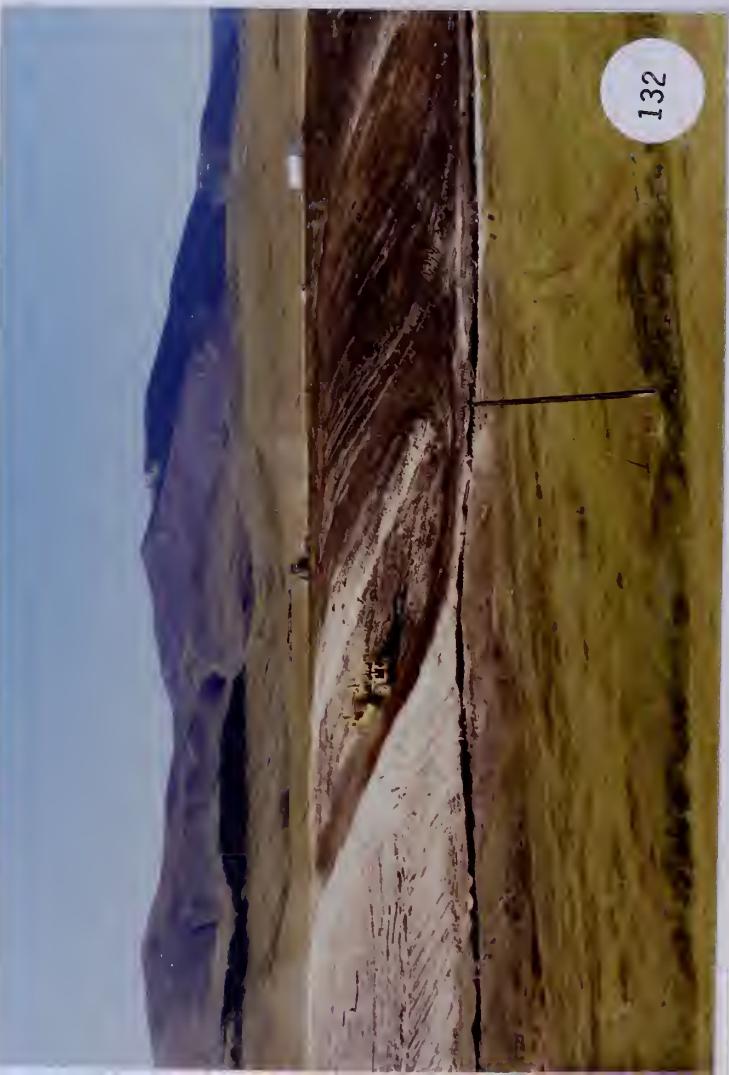
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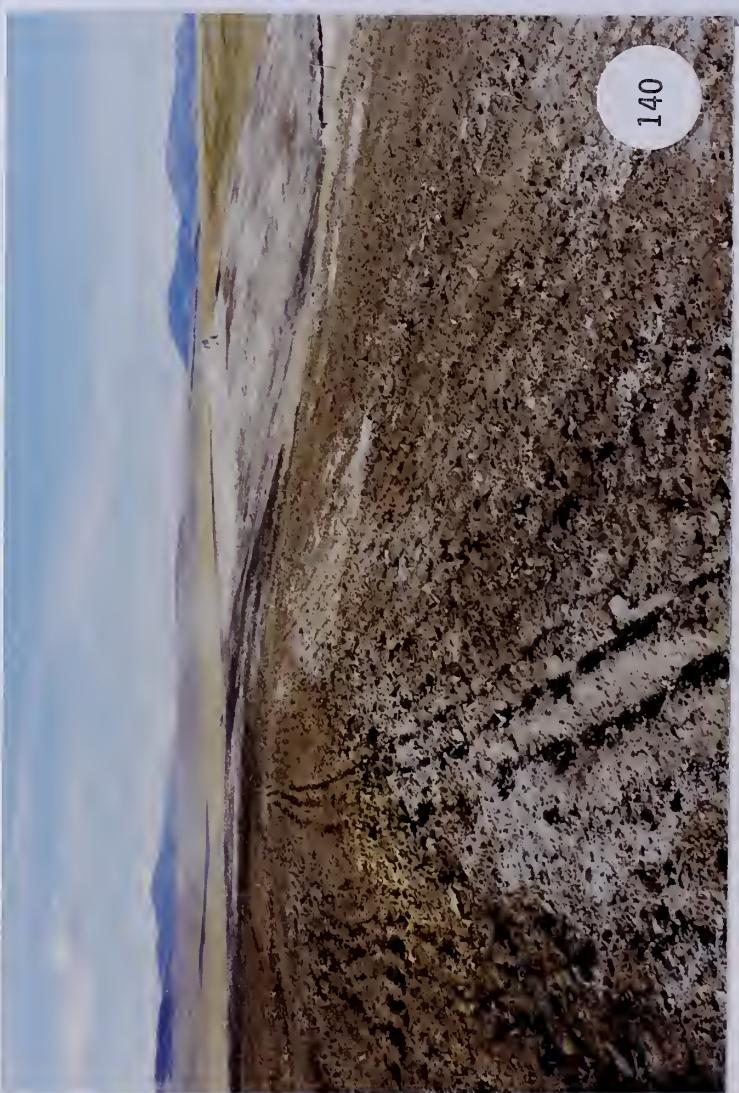
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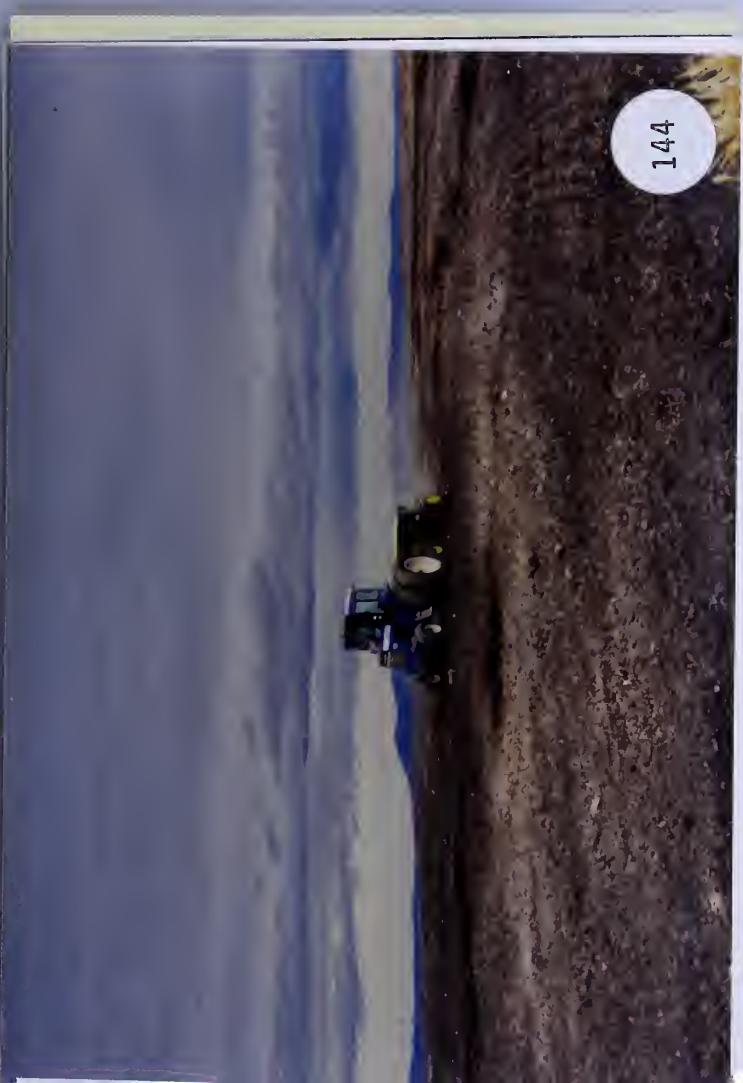
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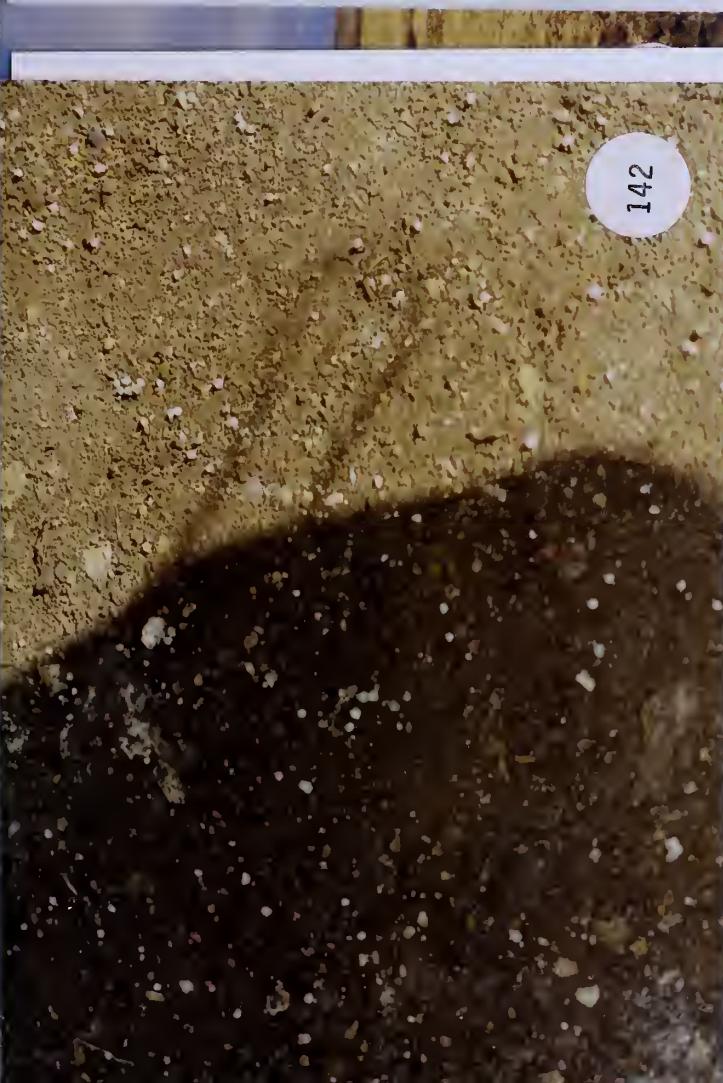
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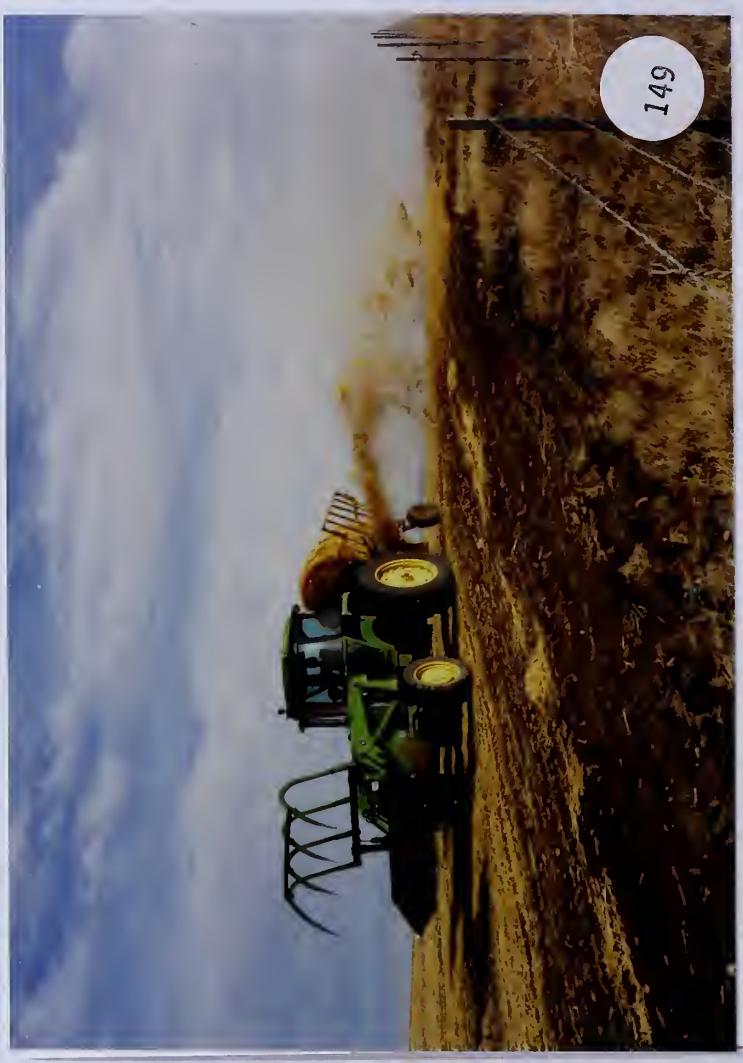


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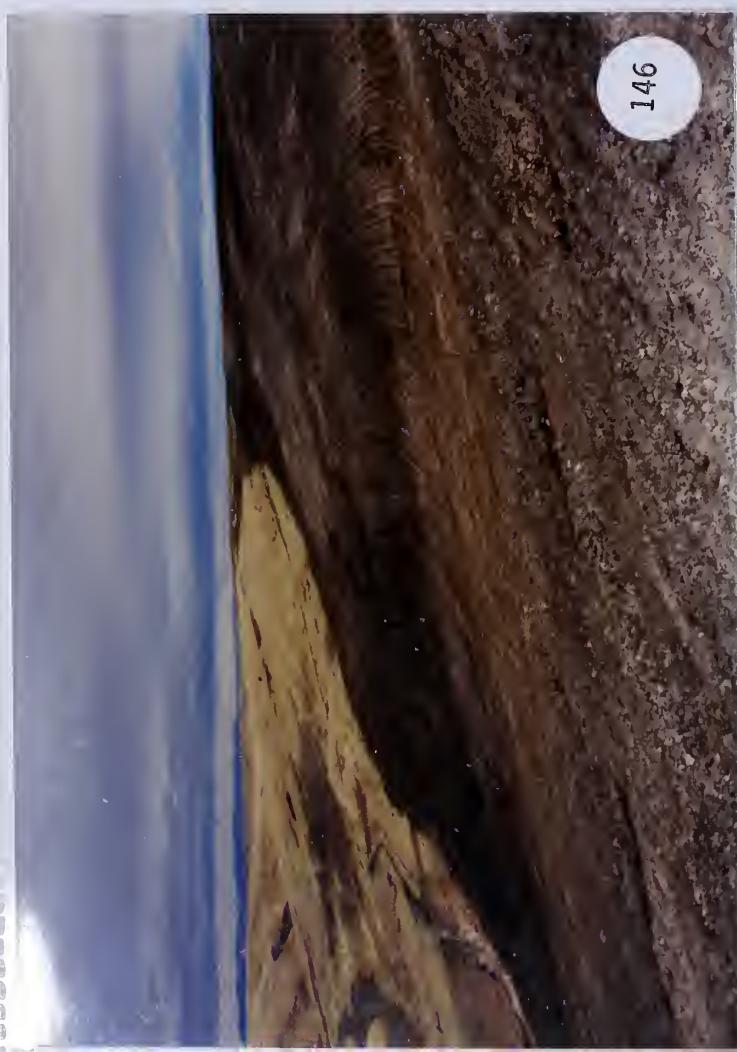




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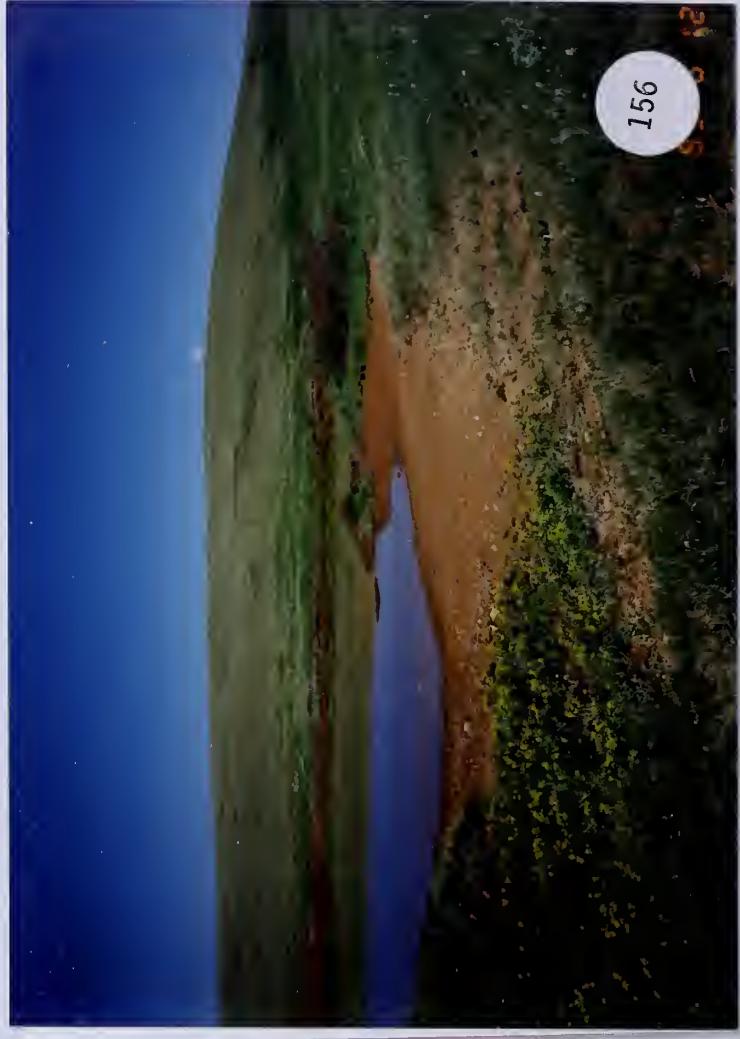
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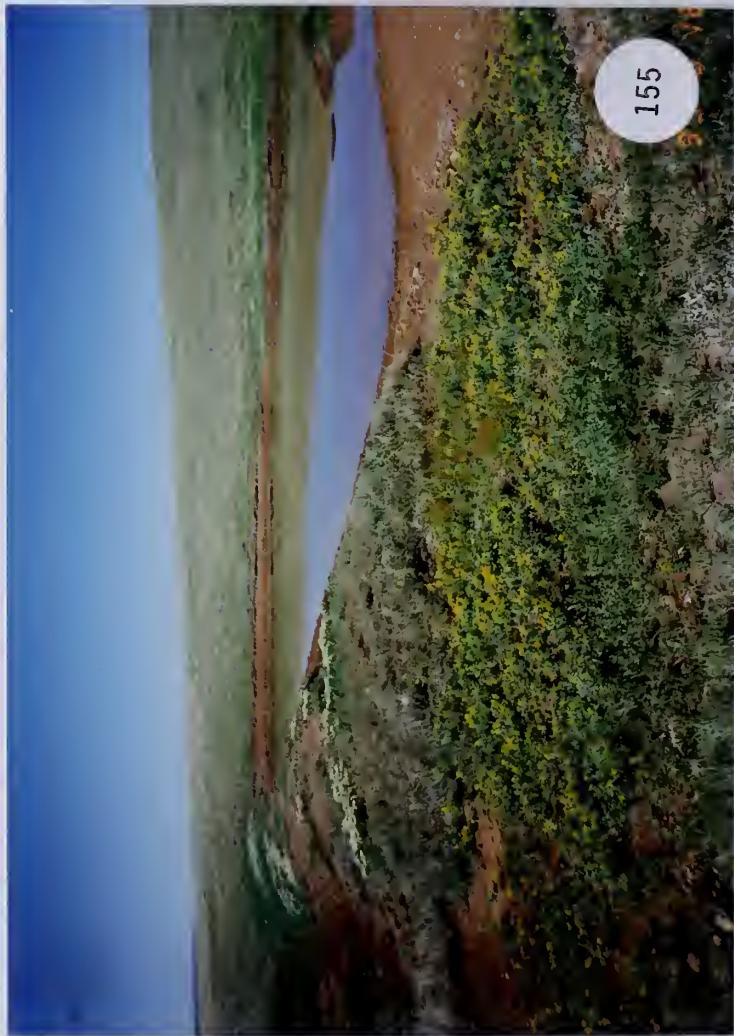
STOCKWATER DAM SITE



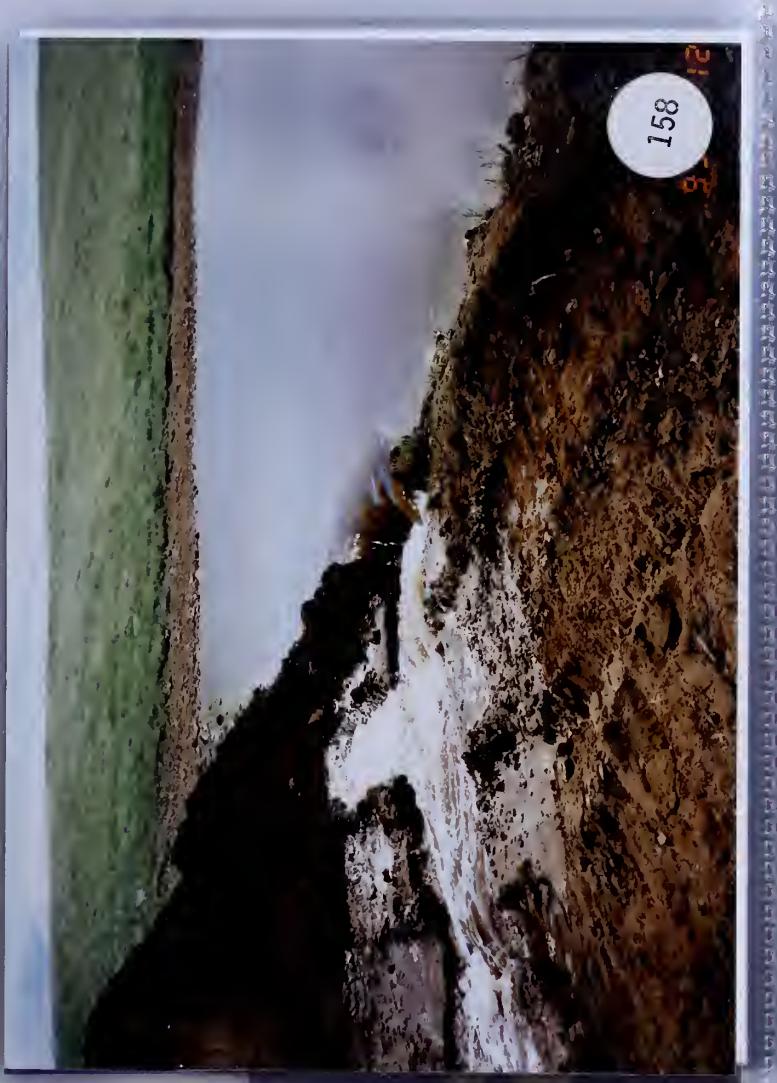
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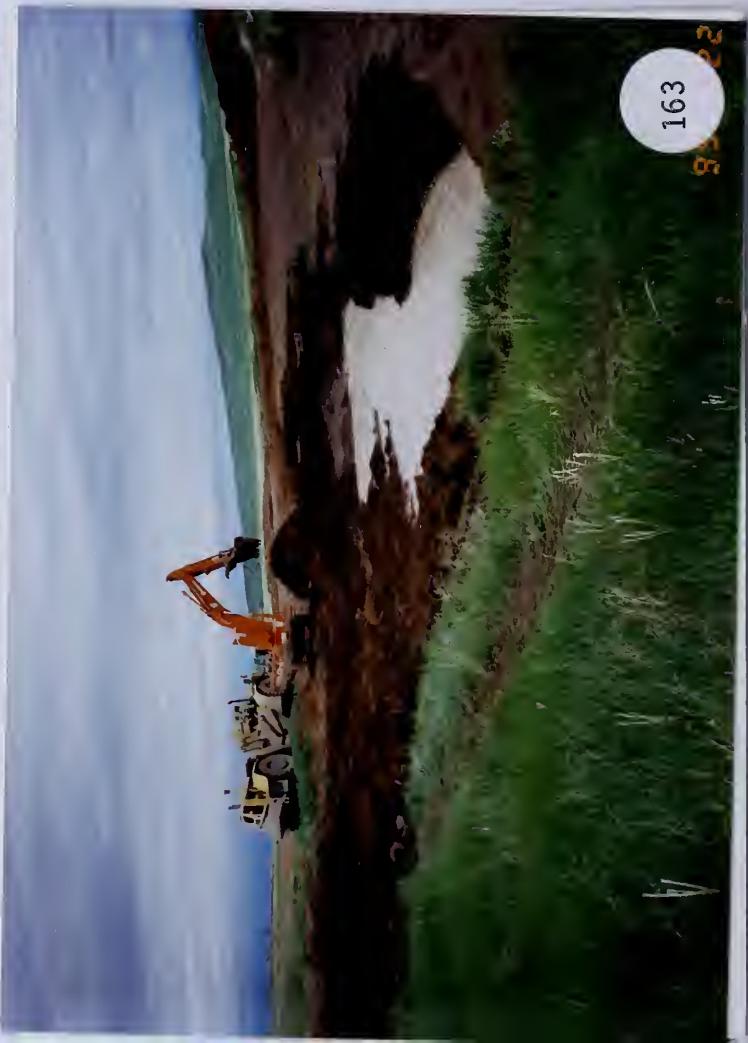


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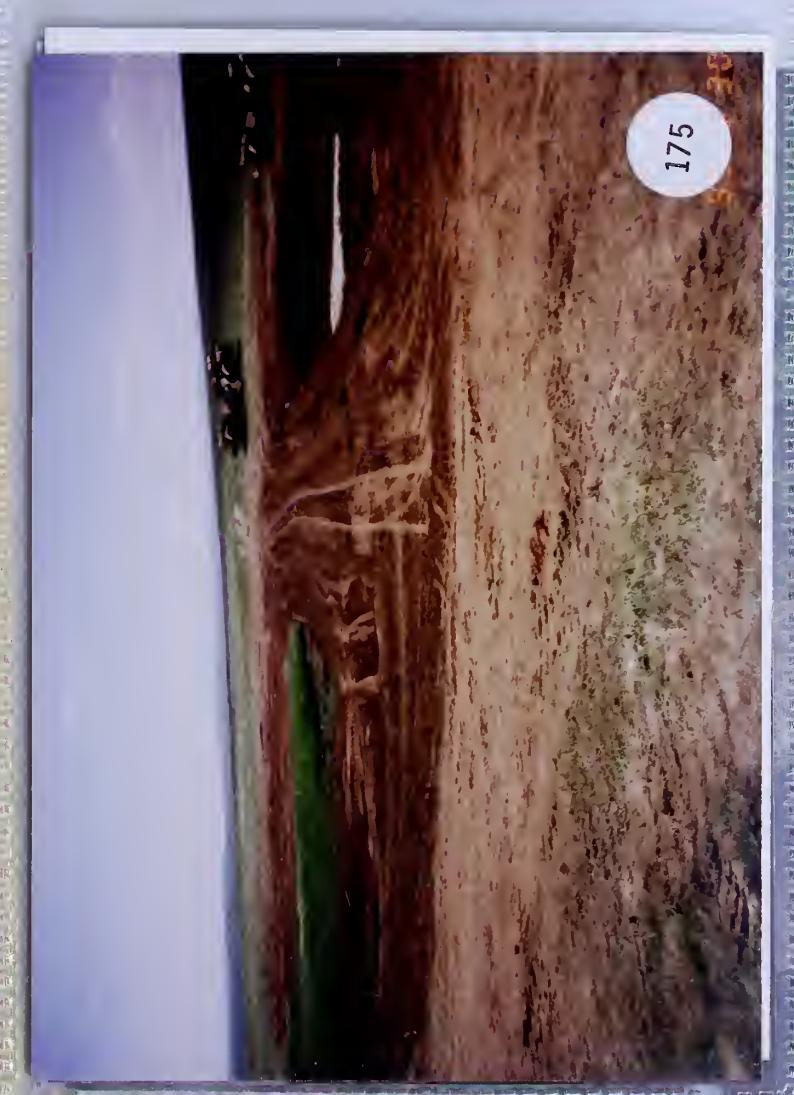
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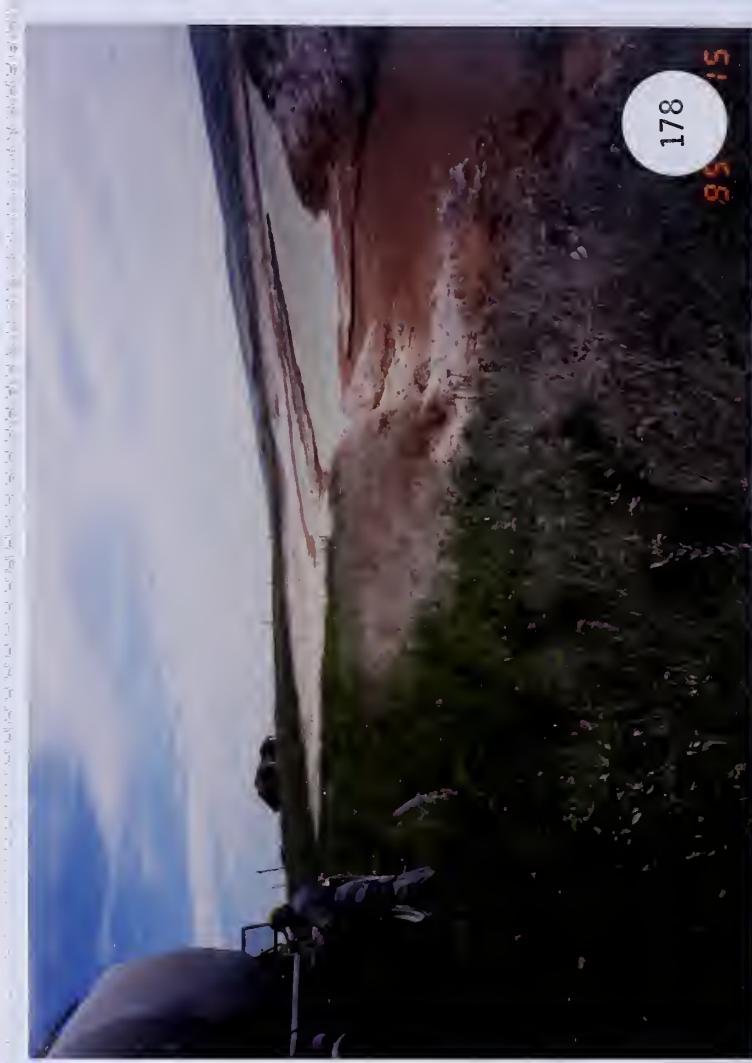


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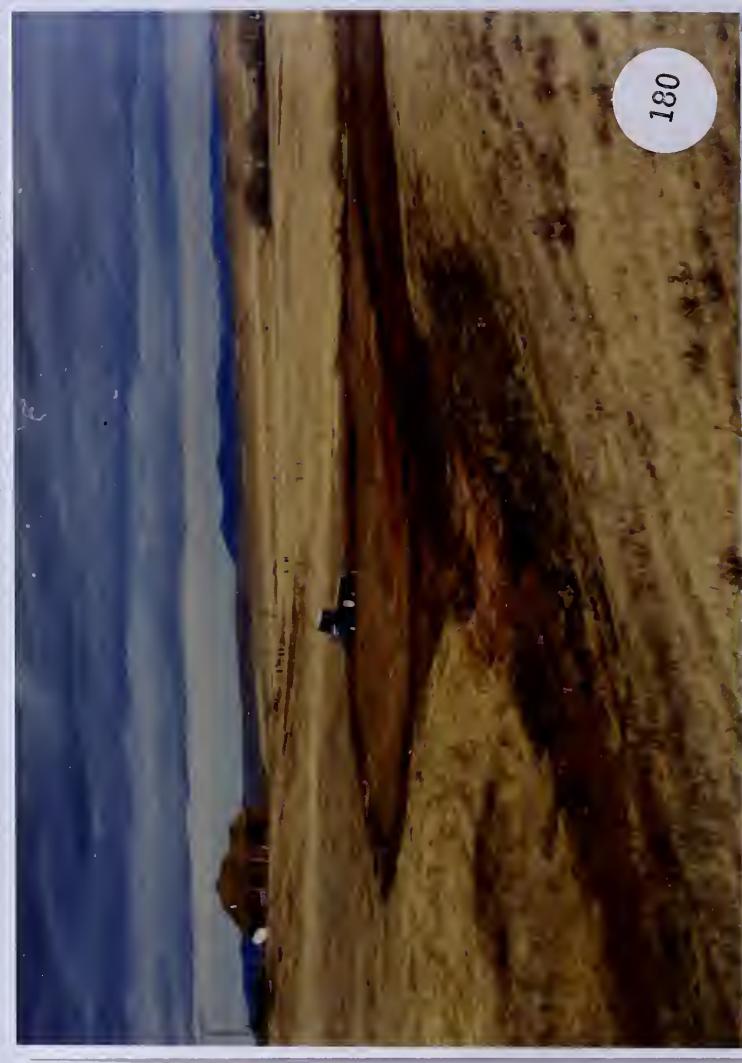
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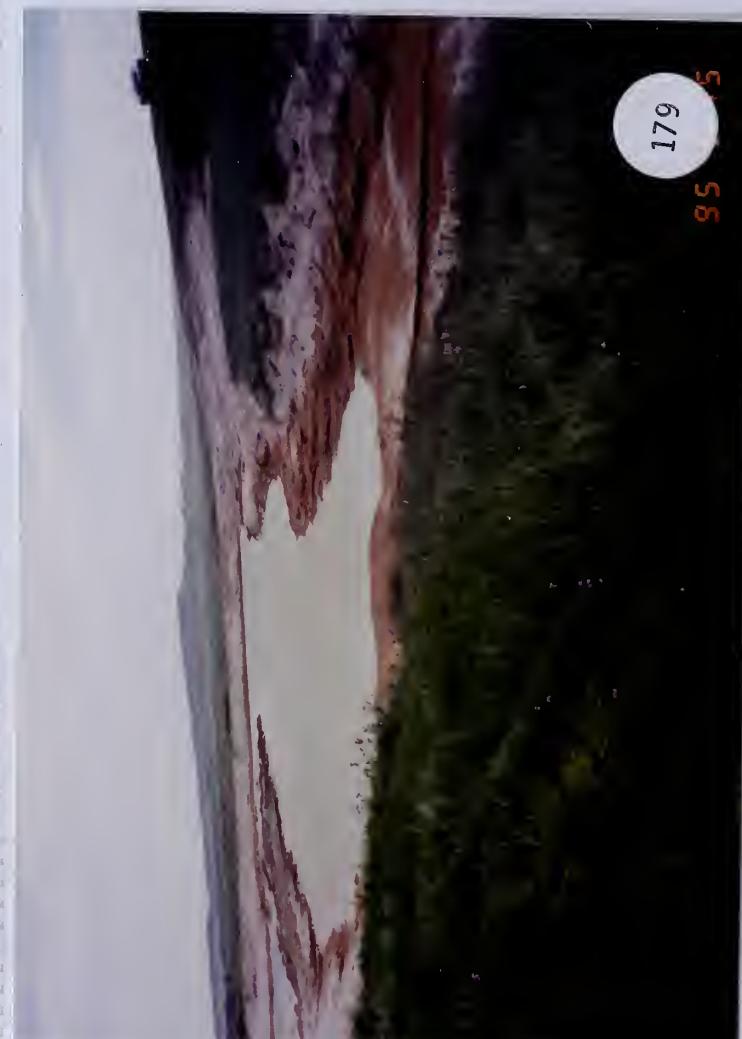
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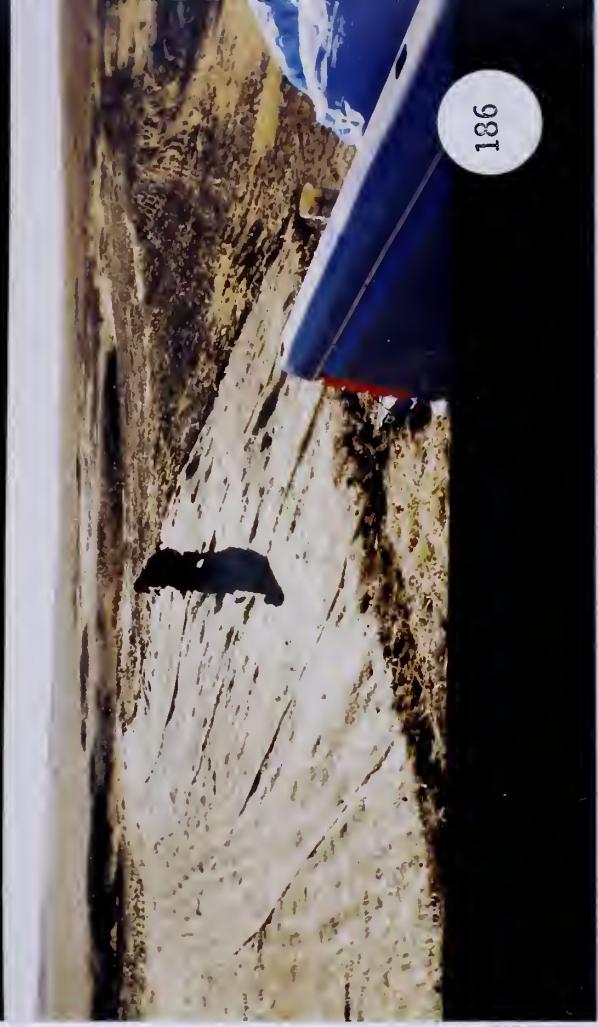




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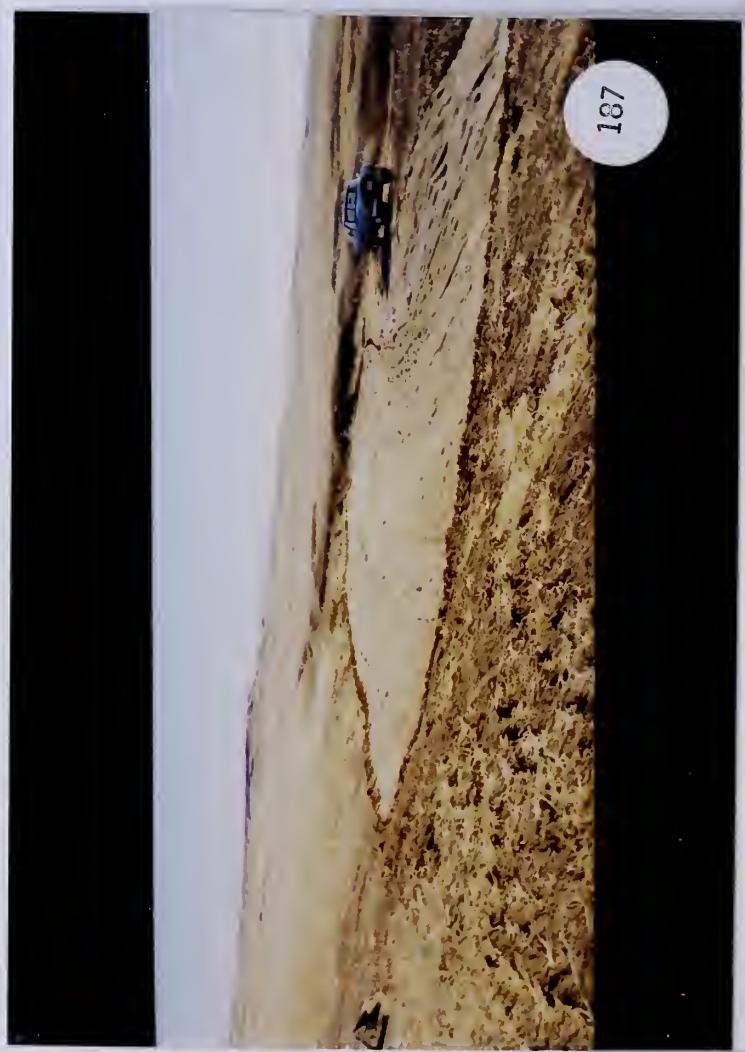
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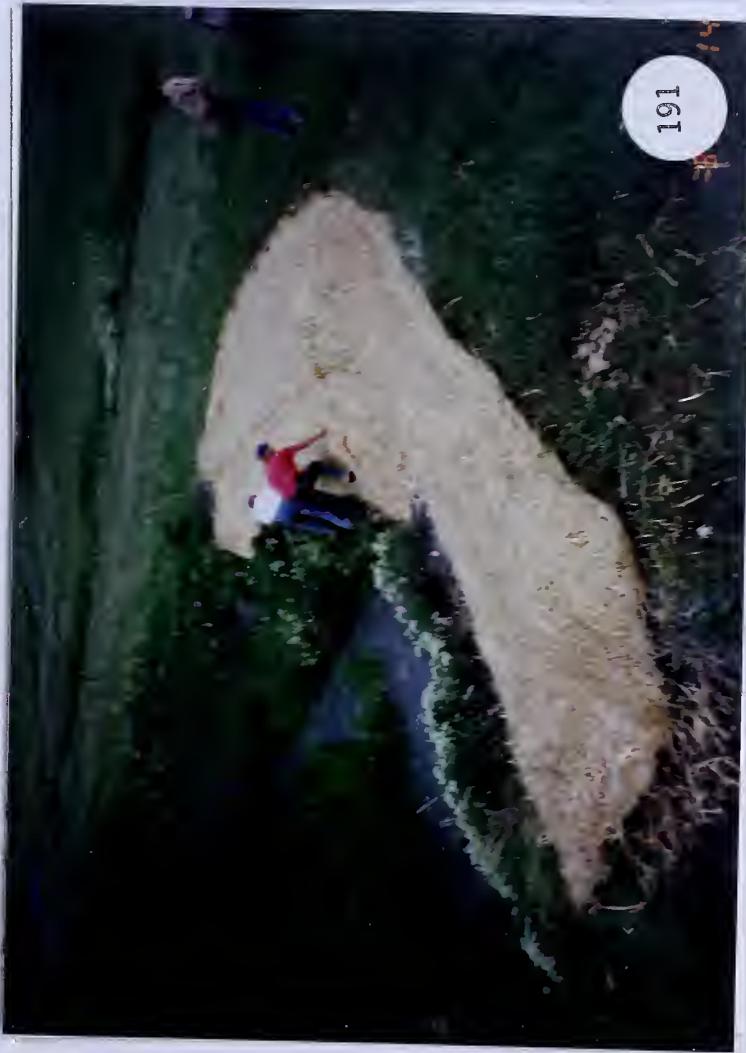
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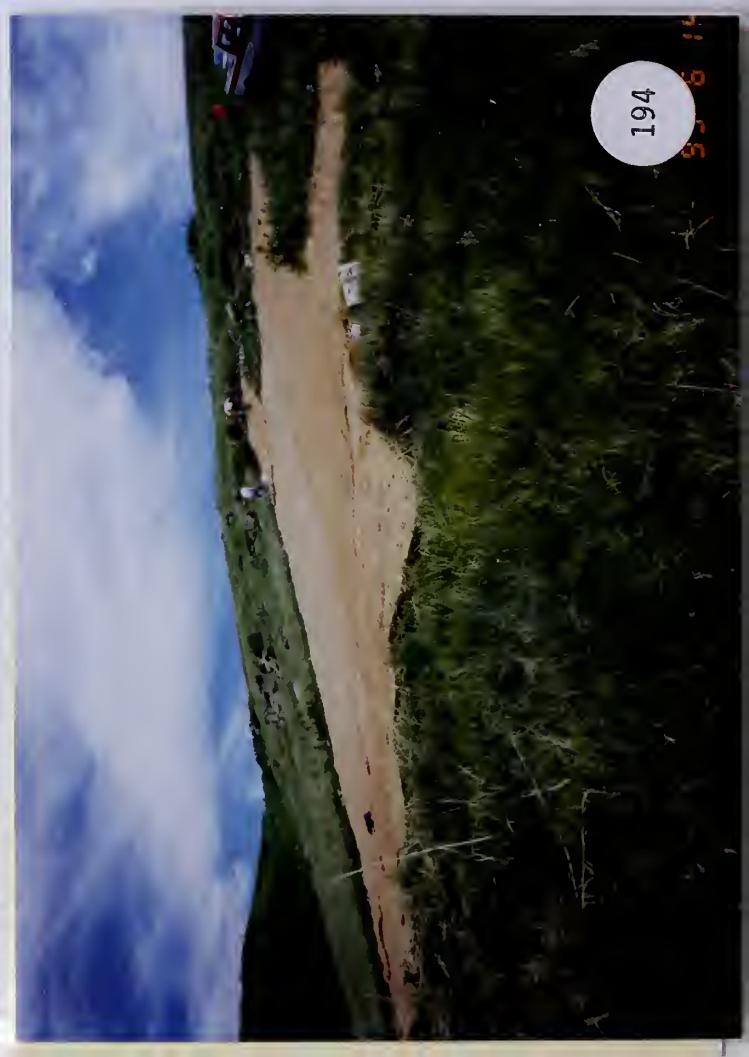
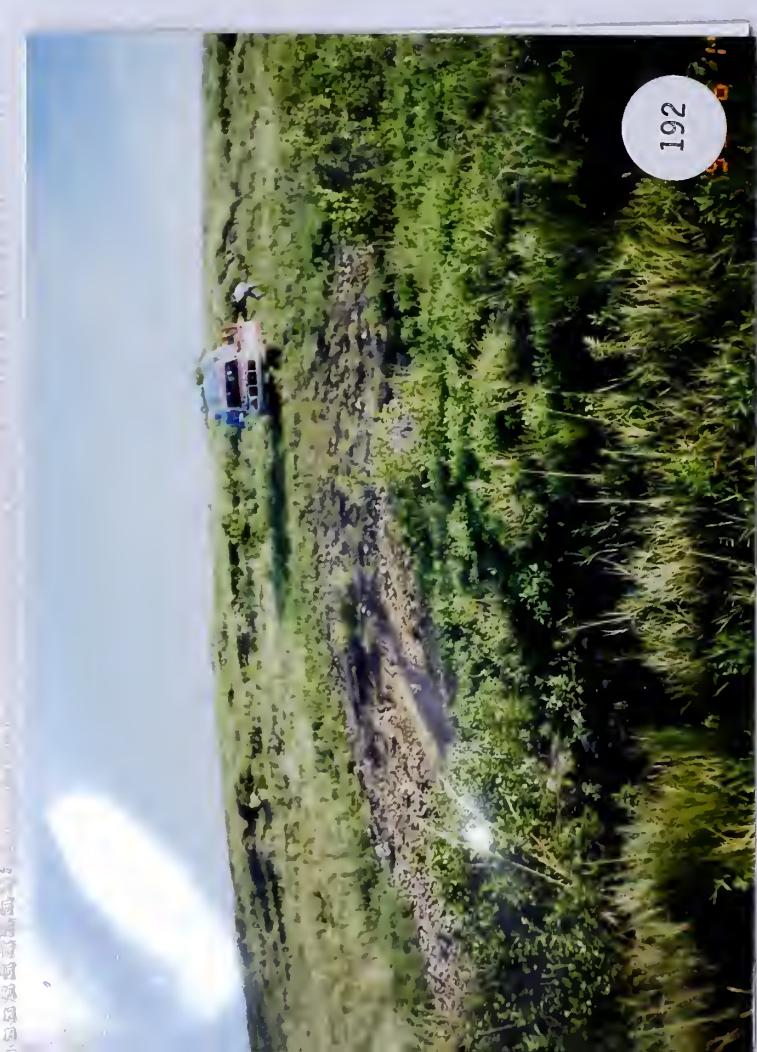


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HUGHES F SITES





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